



FFY E'S
INTRODUCTORY
GEOGRAPHY

INDIAN EDITION

W & COMPANY



Bush at

Cherry

Branch and

200

CLARA LABOUNTY

Wendell La Bounty
Re-Song
dnd

If you love me as I love you, please come out our love into

Clara

Maudie

Remember Oh Remember
the happy days
Remember Oh Remember
that little blue eyed fool.
Your friend Goldie.

Remember the future
Remember the Past.
Remember the night
Jessie kissed a you last. Goldie.

I spit my juice and cherumny
oym and kissed
the boys whenever
I please. Goldie.

when you are married
living at a poor case.

Remember I am
single do not please. Goldie.

INTRODUCTORY GEOGRAPHY

BY

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AUTHOR OF "CHILD AND NATURE," "BROOKS AND BROOK BASINS," "PRIMARY GEOGRAPHY," "ELEMENTS OF
GEOGRAPHY," "ADVANCED GEOGRAPHY," "COMPLETE GEOGRAPHY," "TEACHERS'
MANUAL OF GEOGRAPHY," "HOME AND SCHOOL ATLAS," ETC.

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PREFACE.

Plan.—This book is best suited to the fourth and fifth grades or years, and leads directly to the larger geography.

People.—The central thought is *Man in his relations to the earth*. Pupils are led to the *homes of the races*.

United States.—Every pupil should know a great deal about his own country,—its physical features, climate, products, industries, commerce, states, cities, etc. A large part of this book is devoted to the United States.

Commerce.—Special maps and lessons are given on *products and related industries leading to commerce*. These are treated in their relations to climate and natural features. More stress than usual is laid on this subject, because of its influence on national life.

Pictures.—Nearly all the pictures were engraved directly from photographs and are *true to nature*. They present typical forms and *supplement the text*.

Topics.—The work is presented in *topics* in such order as will enable pupils to *reason from one step to another*. Pupils should find out what the text tells about each topic and should be able to state the leading facts, not in the words of the book, but in their *own language*. Teachers should question pupils upon topics.

Examinations should be based on topics broad enough to test thought.

Unity.—This book holds the *earth as the unit* before the mind and relates all study to that unit. *The memory is thus aided and much time is saved.*

Sizes of Type.—The text in large type calls for closest study. Questions in small type are to be answered by pupils. The text in small type may be used for reading lessons.

Spelling.—In spelling and usage of geographic names, the maps and text follow the rulings of the *United States Board on Geographic Names*.

There has long been confusion in the usage of capital letters. This book adopts what seems to be the best modern usage and allows the capital in *specific names*, such as Rhine and Andes, but not in *class names*, such as river and plateau; thus *Rhine river*. The *United States Board* rules out the apostrophe from names of *places within the United States*.

BOSTON, March, 1899.

THE AUTHOR.

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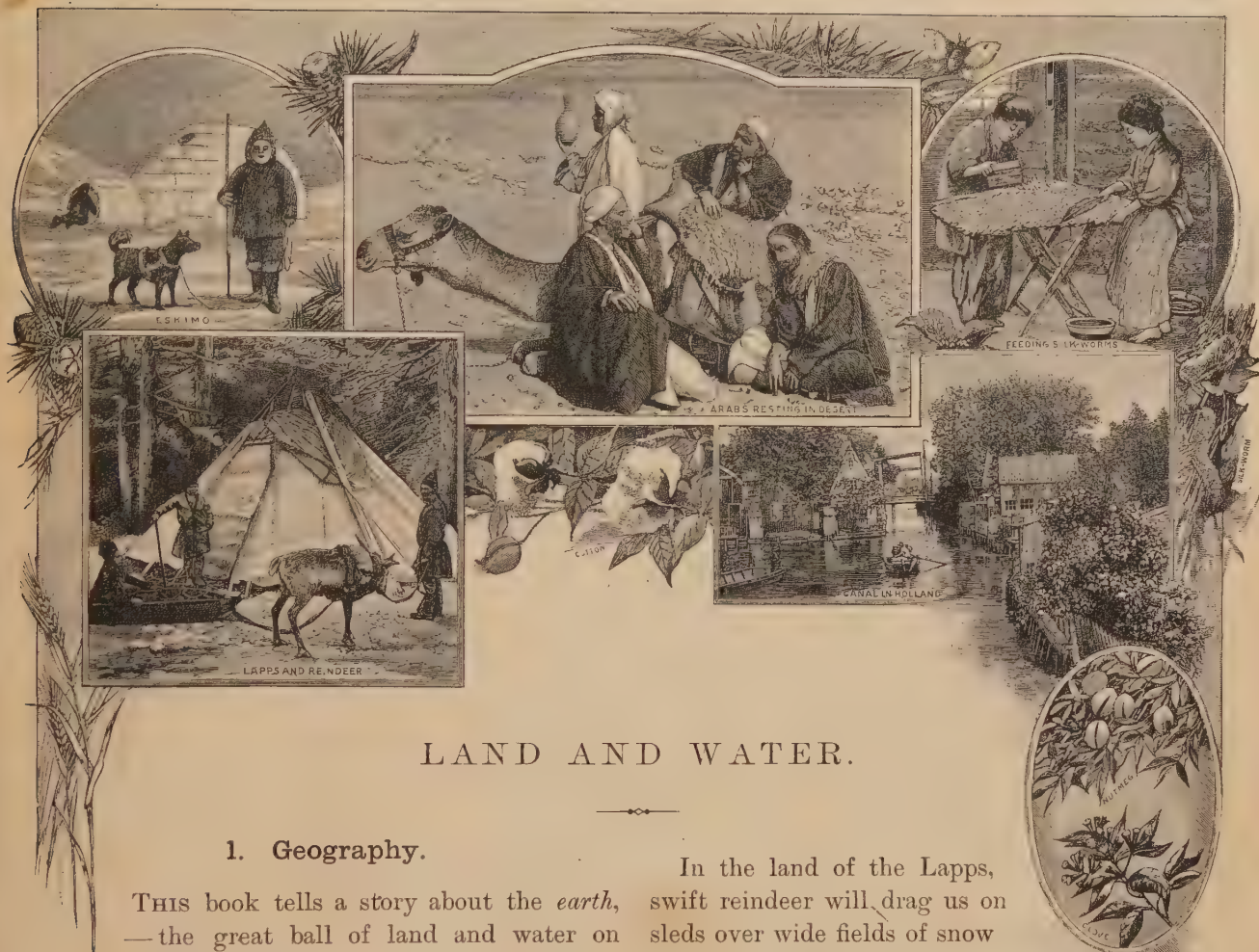
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RELIEF MAP OF THE UNITED STATES.



LAND AND WATER.

1. Geography.

THIS book tells a story about the *earth*, — the great ball of land and water on which we live.

After studying that part of the earth which is near our school, we shall visit the homes of girls and boys in other lands.

We shall see little yellow people feeding silk-worms and picking leaves from tea plants.

The Arab boy will show us his father's camels and horses, and will tell us about the great desert that spreads round his home.

In the land of the brown people we shall find groves of spice, and shall see the brown girls weaving pretty baskets.

The Eskimo boy will show us how to crawl into his snow hut, and will tell us how his father hunts the seal for food and clothing.

In the land of the Lapps, swift reindeer will drag us on sleds over wide fields of snow and ice. We may also peep into tall straw huts, and see the black people in their far-off home.

Would you not like to sail or paddle along the canals of Holland, past quaint houses and bridges?

In the United States, our own country, we shall pass by acres and acres of waving grain and wide fields hidden with white cotton.

We shall climb high mountains whose tops are buried in ice and snow.

Every day of our journey will bring new sights and tell new stories of the beautiful earth on which we live.

A story of the earth and its people is called *Geography*.

2. Hills and Valleys.

Is there any level land near your school? Where?

Is it exactly level? Does any water flow across it? Where have you seen a *hill*? Where have you seen a *valley*?

Find pictures of two hills and two valleys in this book.

How does a hill differ from a valley?



From Source to Mouth.

3. Brooks and Rivers.

How many *brooks* can you see in the picture?
Where does the water in the brooks come from?

Find the swiftest part of the stream. Can you tell why the water flows swiftly in the *rapids*?

Why does the *river* flow smoothly under the bridge?

Why do the brooks spread over the *meadow* and make a *pond*?

Find two pictures of rivers. How does a brook differ from a river?

4. Slopes.

Any land that slants is a *slope*. The side of a hill, or of a valley, is a slope.

Some slopes are gentle, and others are steep. Where have you seen a gentle slope? Is there a steep slope near your school?

Most brooks that flow among hills are very swift. Can you tell why?

Look at the meadow near the pond in the picture. Do you think that this meadow is just level?

Why does not the pond spread out farther?

When a brook runs into a small hollow, it makes a pond. Rivers often flow into large hollows, and make *lakes*.

If all the land were level, there would be no hills nor valleys, no ponds nor lakes, no brooks nor rivers.

Find three pictures of steep slopes, and three pictures of gentle slopes.

5. Kinds of Soil.

Which is the finer, loam or sand? Loam or clay?
 Pour some water on loam, on sand and on clay.¹
 Into which does the water sink most quickly?

Which dries soonest, the loam, the sand or the clay?

What becomes of plants that die, and of leaves that fall?

Find as many kinds of soil as you can. Put each kind by itself in a bottle.

What kind of soil covers the fields or yards near your school?

Can you find out what is under the soil?

6. Work of Water.²

How hard it rains!

The river is swift and muddy.
 Where does the muddy water come from?

Let us go out on the side of the hill. Can you see the tiny streams or rills which the rain makes? Look closely! They are very small.

Many of the rills are muddy. These are washing away the finest soil. Watch the rills that are rolling sand down the steep places.

The rills cannot carry sand very far. They must leave it in the hollows and on the level places. Can you tell why?

What will become of the fine soil that makes the rills muddy? The little streams will carry some of it down to the river.

¹ A small box of each will answer for the entire class.

² WEATHER RECORD.—In a notebook keep a *daily* record of the weather. In the afternoon write whether the day has been *hot, warm, cool or cold; clear, cloudy, rainy or snowy; calm or windy*. Be sure to write the date.

This record will show you how to keep yours.

Dec. 6	warm	rainy	windy
7	cold	clear	windy

The balloon shown in the picture is floating in the clear air, far above the clouds.

7. Loose Soil.³

Pour some water on hard ground. Wait two minutes, then dig and see how far the water has settled.

Loosen a little patch of ground with a spade, and pour on some water. After two minutes, find out how far it has gone into the soil.



Rainstorm.

Farmers plow in order to turn up fresh soil, and to loosen it, so that the rain can easily sink down.

Do you know what frost does to the soil?

Dec. 8	cool	clear	calm
9	cool	rainy	windy

Keep the record every school day for a year. Perhaps you can also take notes for holidays. At the end of the year you can count and find out which month has had the greatest number of warm days, rainy days, etc.

³ Home work for pupils who wish to try the experiment.

8.

Rain in the Soil.

When it rains, some water sinks into the ground. It moistens the soil around seeds. At the right season they sprout and grow through the soil.

The rain flows among grass roots, and little blades shoot up, making the fields green.

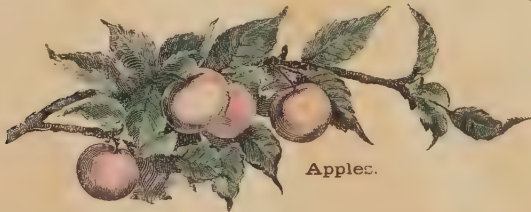


Indian Corn.

taken into the roots of trees. It rises to the sleeping buds, and pretty leaflets unfold.

Now the blossoms hang in clouds, and later they fall like snow. Grain sprouts, grows up and waves in the fields.

At length the boughs bend low with fruit. Sheaves of wheat dot the fields, and long ears of corn ripen in the sun.



Apples.

All the time the plants are growing, water in the soil helps to feed them.

Have you ever seen worms crawling out of the ground?

Worms grind leaves, and mix them with soil. They bring rich earth to the surface, and make little mounds of it.



Grainfield.



Apple Blossoms.

Have you ever watched ants building their hills? Do you know of any place where ants are at work near your school? Where do they get fine earth for their hills?

Mounds made by worms and ants are often dotted over the fields.

Raindrops spread these mounds, and carry some of the rich soil down again to the roots and seeds.



Growing Pumpkins.

9. How Soil Settles.

Mix fine soil in one glass of water, and coarse sand in another. Let the water stand for a while, and see what takes place.

Which settles first, the soil or the sand?

Mix fine loam and coarse sand in a glass of water, and let it stand. Which settles on the other, the loam or the sand?

10. Work of the Brooks.

What is the swift part of a brook called? Can you tell why?

Below the *rapids* there is a small pond. This pond is only a wide place in the brook. Rain has been falling, and the brook is muddy. It has a load of fine soil which the rills have brought from the slopes.

Let us throw two or three pailfuls of gravel into the rapids. See what takes place.

The pebbles sink in the rapids, where the water is swift. Some are rolling down the slope under the water. Can you tell what moves them?

Here is the sand below the rapids. Watch it spreading on the bottom. It looks like a great leaf. Why does the sand settle here? Why did it not settle in the rapids?

Look into the pond where the water is still. The muddy water is flowing into it. Let us wait a little while and find out where the fine soil goes.

The part of the brook that flows out of the pond is not muddy. It has left the fine soil under the still water.

If there were no pond, what would become of the muddy water?

11. Mud Banks or Deltas.

Look once more at the mud on the bottom of the pond.

When it rains again, more soil will be brought down by the rills and brook. In time a little mud bank will form near the place where the brook flows into the pond.

When the water is low the mud will stand above it.

After a long time the soil may fill the whole pond, except where the brook keeps a path or *channel* open. As the new bank of soil grows, grass and flowers will cover it, and make it look like other parts of the field.

Thus, water wears down the high land and so makes the slopes more even.

Mud banks that form where streams flow into still water are called *deltas*. A delta cannot form in water that moves swiftly. The soil is swept away and cannot settle.

Most of the rivers in the world flow into a great body of salt water, called the *ocean* or the *sea*. Rivers make many deltas on the shores of the ocean. Some deltas are so large that cities are built on them.

Let us next find out where the water in brooks and rivers comes from:

12. Water and Heat.

Put a few drops of water into a tin cup, and heat it. Where does the water go?

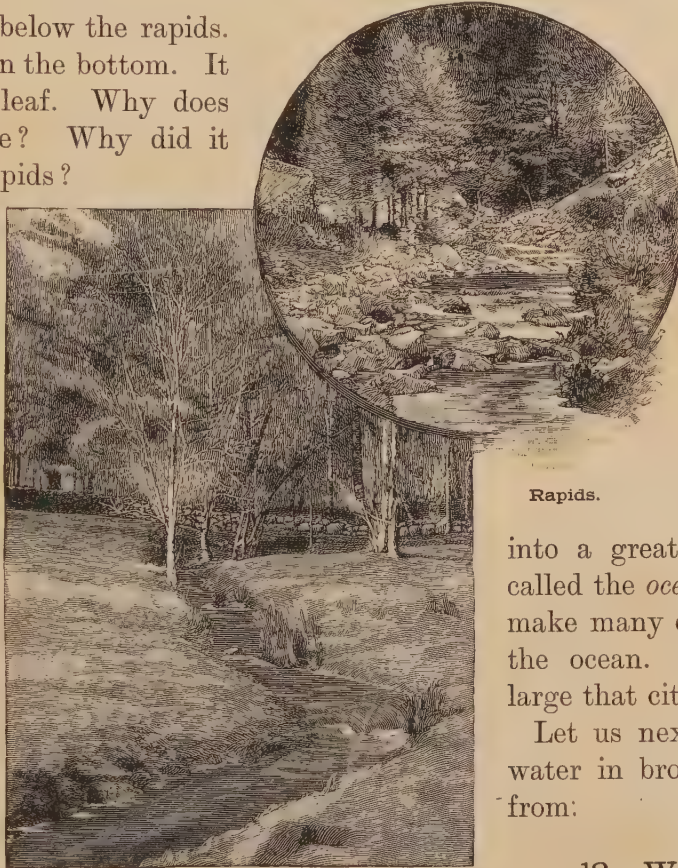
The water in the cup changes into *vapor*. We cannot see the vapor, but it is floating in the air.

Heat a small bottle of water over a lamp. What takes place inside the bottle? What comes from the bottle?

Hold a piece of cold glass in the *cloud* that you can see coming from the bottle. Of what is the cloud made?

Breathe against a cold window. What is in the breath?

Have you ever seen your breath? Was it on a cold day or on a warm one?



Brook.

Rapids.

Put a little water into a shallow basin, and let it stand in the sun. Where does the water go? Into what does it change?

What makes the little cloud that comes from the kettle in the picture?

13. Forms of Water.

When we put water into a shallow basin, and let it stand in the sun, the water slowly changes into vapor, and floats away in the air.

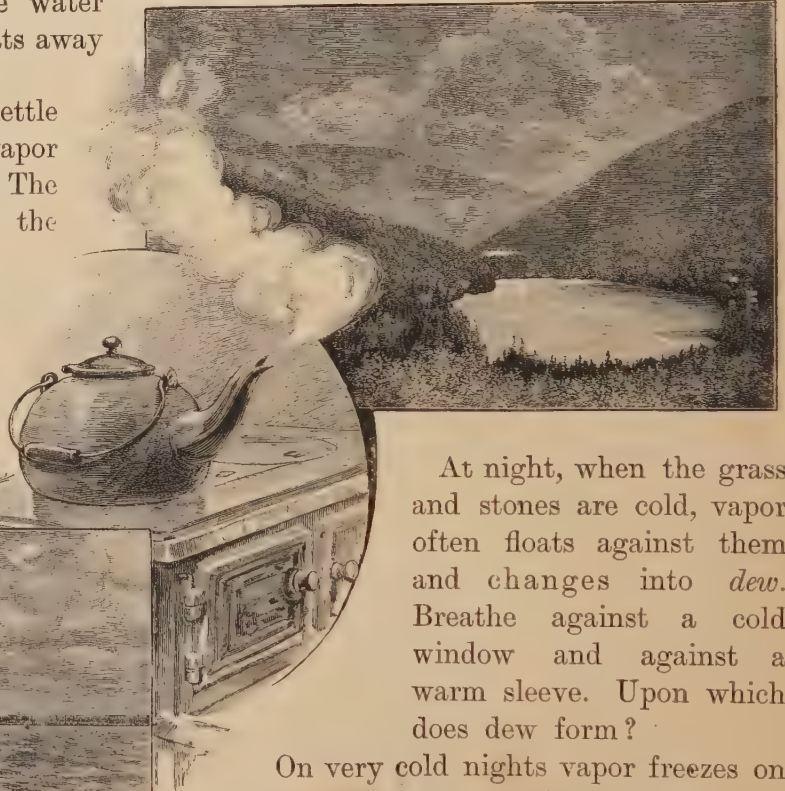
We cannot see vapor. The kettle in the picture is sending out vapor which changes into a little cloud. The vapor is in the clear space near the mouth of the kettle.

Vapor rises from ponds, lakes, brooks and rivers, but most of it comes from the sea.

When the air is cooled enough, some of the vapor in it changes

Have you ever seen any *hail*? Did it look like frozen rain?

When the air is very cold a part of the vapor in it sometimes freezes into crystals or flakes of *snow*. If you will catch some snow-flakes on a piece of black cloth, you will find that they have very pretty shapes.



At night, when the grass and stones are cold, vapor often floats against them and changes into *dew*. Breathe against a cold window and against a warm sleeve. Upon which does dew form?

On very cold nights vapor freezes on grass and stones and forms *frost*.

A part of the dew and frost is formed of vapor that rises from the damp earth.

The ice-coat on water forms first at the surface. If the freezing began at the bottom, many lakes and streams would become solid masses of ice. The fish in them would die, and even the summer sun could not melt the ice in deep water.

What are the uses of ice?

Perhaps these words will help you to think of some of the uses of water:—kitchen, travel, mill, plant, river, rain, ocean, well.

into large clouds, such as we often see floating above us.

Were you ever in a *fog*? Did it look like *water dust*? Fog is a cloud near the earth.

When enough vapor has changed into cloud, some of the particles of water fall through the air. Many particles run together and form drops of *rain*.

14. Springs.

Why does not rain fill the soil ?

Have you ever seen water flow out of the ground ?

Is there a *spring* near your home ? If so, tell what it is like.

Brooks often flow in dry seasons. Can you tell where the water comes from ?

15. Sources of Streams.

The beginning of a brook or river is called its *source*.

Many springs form at the foot of hills, and also in meadows.

Many others bubble up in the bottoms of brooks, ponds, rivers and lakes. Ponds and



GEYSER



HOT SPRING



lakes store up water, and supply it to brooks and rivers long after the rain is over.

Do you see the large brook or river that flows from under the ice ? The tops of many mountains are covered with ice and snow all the year. Many streams are formed by the melting ice and snow.



Would you like to see hot water spout out of the ground? It often shoots up as high as a very tall tree. There must be a very hot place in the earth under the *geyser*.

From some springs there is a gentle flow of warm or hot water. Find the picture of the *hot springs*. Do you not think that they have made many pretty basins?

16. Where Brooks Flow.

Why do brooks flow in winding lines?

In what direction does every stream flow?

Why are some brooks swift and others slow?

Why is a brook wider in some places than in others?

What are the uses of brooks and ponds?

17. Systems and Basins.

Streams often flow from many small valleys into a large valley.

All the *streams* that meet in one valley form a *system*. A *river system* includes the main river of the valley, and all the rills, brooks and rivers that flow into the main river.

All the land that sends water to a brook

forms the *basin* of the brook. A basin is made of slopes.

Every stream is in a basin. A *river basin* includes all the land that is drained by a river system.



Mississippi System.

Every large basin is made of many small ones.

Many brook basins send water to one river. A large river basin often includes many smaller river basins.

The Mississippi system drains about a million square miles of land. This vast tract of land forms the Mississippi basin.

The main stream of this system is the longest river on earth.

How does a basin differ from a system? Point to the basins and systems in the picture on the opposite page.

18. The Top of a Ridge.

Here is a picture of a ridge that rises between two long narrow valleys.

When rain falls on the top of this ridge, into which valley does it flow?

What part of the ridge is in each valley?

Point to the line that runs along the very top of the ridge. This line is called a *divide*. It divides the valleys.



A Divide



San Bernardino Mountains, Cal.

San Jacinto Mountains.

19. Divides.

The slopes of the large valleys in this picture begin at the tops of the high ridges. Each slope starts at a divide.

Some divides are on high land where snow lies all the year. Other divides are low. If it were not for running water it would be hard to find them.

The rain that falls on any slope flows into the valley to which that slope belongs.

A divide is often called a *water parting*. Can you tell why?

Find on the map a water parting that is on very high land. Find one on low hills; another on land that is nearly level.

Point as near as you can to the sources of all the streams that flow into the Santa Ana river. All the slopes that send water to these streams are in the Santa Ana basin. Trace the divide that bounds this river basin.

20. How Slopes Are Worn.

Find a piece of wood that has lain a long time on the ground. Cut into it. Has any part begun to decay?

Break open a small round stone, or a large pebble. Which part has begun to decay? Which part looks brightest?

Wood decays, and so do rocks decay. All rocks, both large and small, slowly crumble into soil.

Wind blows dust and sand about. Raindrops wash tiny grains of rock together, and make them finer.

Frost splits many rocks, and even wedges off large pieces from cliffs.

Little by little the raindrops, rills, brooks and rivers wash the fine rock or soil down the slopes.

Thus, most slopes are slowly crumbling and wasting away.

21. Beds of Streams.

The bottom of a stream is called the *bed* of the stream.

We have seen how rills and brooks carry away soil. Swift rivers often wash tons and

tons of sand, pebbles, and even large stones down the slopes.

This rocky matter grinds the beds and thus helps to wear them away.

In some rivers, floating ice cuts the banks and beds. Mud, sand and stones are held by ice, and are carried down the streams. Where does the ice leave its load?

With a hammer break a stone into small pieces. What is the shape of the pieces? Are they rough or smooth?

Put the pieces into a bottle and shake it very hard. See the grains of rock on the bottom of the bottle.

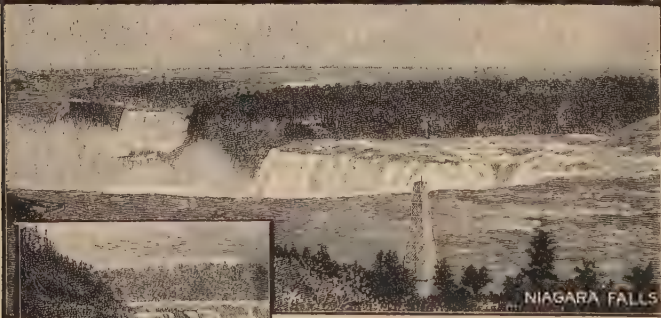
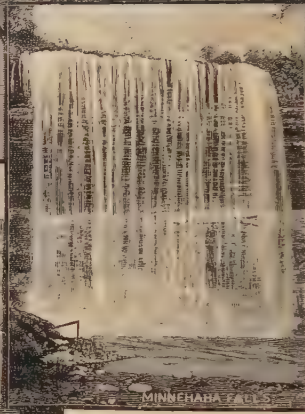
Most of the stones in river beds are round and smooth. Can you tell what rounded them?

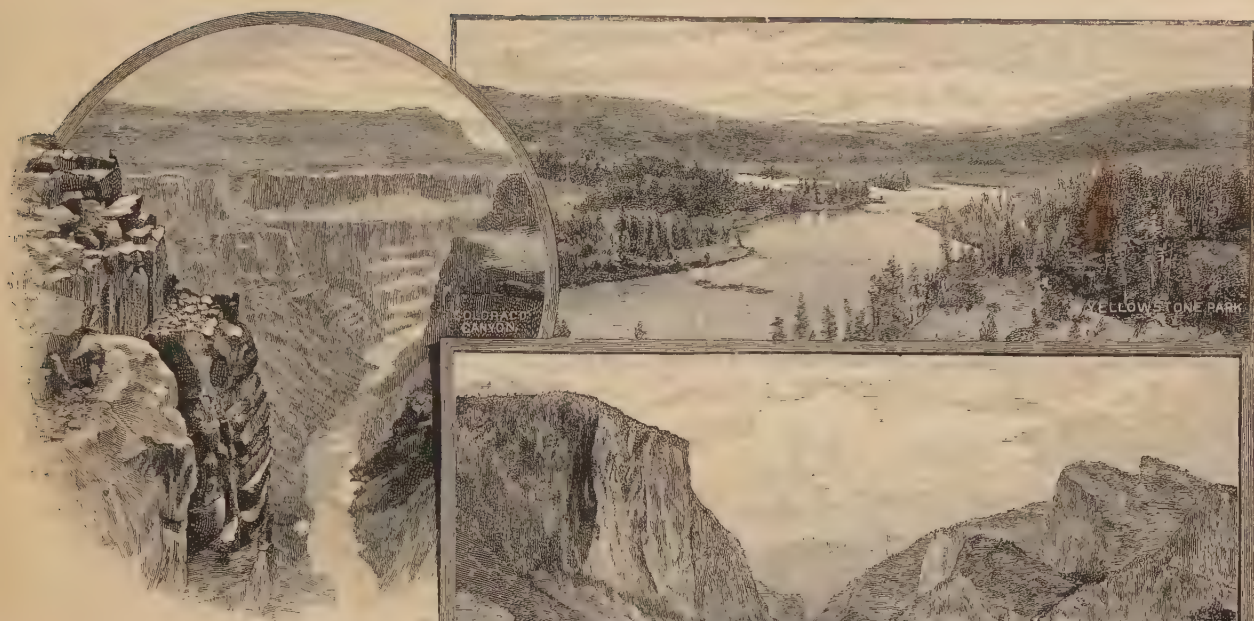
Part of the sand in river beds has come from these stones.

What becomes of the fine particles that are worn off the rocks by rivers? After long ages what will become of the rocks that are now in river beds?

Rivers often wear steep places in their beds. The water leaps down, forming *waterfalls*. A great fall of water over a steep bank is called a *cataract*. A little fall is a *cascade*.

Some of the pictures show water plunging over steep rocks. One shows the rocks back of the falls.





22. Valleys.

Is there a wide valley near your school? Is there a narrow one?

Which of the valleys in the pictures are very deep? Which have steep sides?

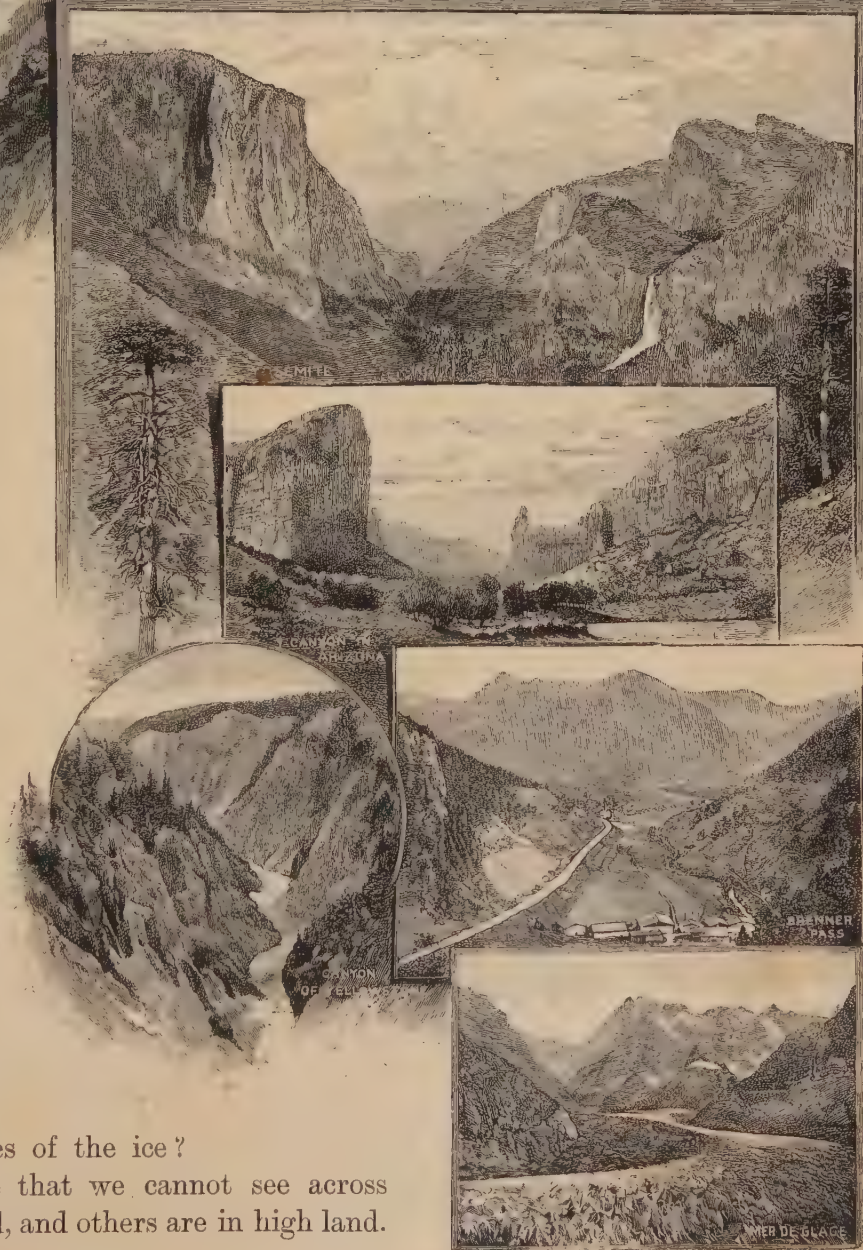
Point to a valley whose sides have gentle slopes.

The sides of all valleys are slowly wasting away. Can you tell why?

In some places, deep valleys with steep sides are called *canyons*. In other places they are called *gorges*.

Do you see the ice river in one of the valleys? This ice river, or *glacier*, moves only a few inches a day. What do you think becomes of the ice?

Some valleys are so wide that we cannot see across them. Some are in low land, and others are in high land.



23. Mountains.

Which pictures show mountains with sharp tops? Which show rounded tops?

How does a mountain differ from a valley? How does it differ from a hill?

Most mountains are made of layers of rock that are tilted and bent. The rock is often hidden under a thin coat of soil.

In some places long and deep valleys have been worn in plateaus. The high ridges and

volcanoes have deep valleys worn in their sides, and it is thought that these are very old.

A row of mountains is called a *mountain range*. Point to the picture of a low range of mountains having rounded tops.

Find a range with snow upon it. These mountains are so high and cold that snow and ice lie upon them all the year.

Do you think that it would be easy to walk along the divide or top of a range? You would have to climb over the highest points, and cross the notches between them.

The top of a range is called a *crest*. Point as near as you can to the crests of two ranges.

Which crest looks like saw teeth? Which looks like waves?

High points in a crest are called *peaks*. Find six sharp peaks. Find three rounded ones.

Only a few people live on the sides of mountains. The land is rough, and it is hard to make good roads there.

In some places on mountains there is grass enough for cattle and sheep, but the soil is generally very poor. Can you tell why?

What becomes of the rock that crumbles on steep slopes?

The roads across mountain ranges run through the low places, or *passes*, in the crests. Point to three passes.

Have you heard of the St. Bernard dogs that have saved so many lives in a famous pass?

Many long *tunnels* have been made through ranges. Trains of cars run through some of these, and save many miles of travel over lofty crests.

Some tunnels are cut through solid rock.



Cascade Peak, Rocky Mountains.

points of land that are left standing among such valleys are often called mountains or hills.

For ages and ages, melted rock and ashes have been pushed up from beneath the surface of the earth, or have been blown up by gases. This melted rock is called *lava*.

In many places the lava and ashes are in great heaps that look like mountains or hills. The mouth from which the lava and ashes came, is called a *crater*. A great heap of lava, having a crater, is called a *volcano*. Some



24. Plains.

How does a *plain* differ from a hill? How does it differ from a valley?

How level the land is in the grainfield where the men are at work. Long ages ago this plain was under water.

Find the rocky plain upon which low bushes are growing. Melted rock or lava came up from the inside of the earth. The lava spread out, cooled, hardened and formed this plain.

Some plains are so wide that a swift train of cars could not cross one of them in a day.

Find a picture of a high plain. See the deep valleys that are worn in it.

Some high plains are even, and some low plains are uneven, but high plains are generally more uneven than low ones.

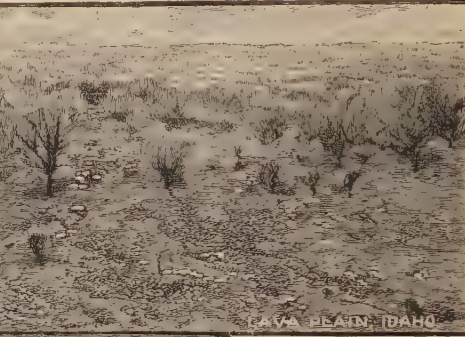
High plains are sometimes called *plateaus*. Nearly all plateaus are cut by deep valleys,

and are broken by high mountain ranges.

Most of the fertile land is on plains,



Which picture shows a level tract of land near a wide river? This plain is made of soil brought down



and here we must look for the chief plants that supply food and clothing.



by the river. The water leaves the soil here in times of overflow.

We have learned how brooks form little deltas in ponds. The plain upon which cows are grazing is part of the delta which a river has made in the ocean.

How broad and flat some of these plains are! They look level as far as we can see. There are others that are not so level.

On level land it is easy to make roads, to dig canals, and to lay iron or steel rails.

Most people make their homes on plains. Can you tell why?

25. Shore Forms.¹

Have you ever seen an *island*? If you have, tell what it was like.

How many islands can you see in the pictures on this page? Find two *peninsulas*.

How does an island differ from a peninsula? The word *peninsula* means *almost an island*.

Which picture is



A *cape* is a point of land that extends out into water.

Some capes are high and others are

low. Find three capes in the pictures.

Find an *isthmus*. This word means a *neck of land*. What does an isthmus connect?

Look at the pictures, and tell how an isthmus differs from a *strait*. A strait is

marked *high tide*? Which is marked *low tide*? How do these two pictures differ from each other? The water in these pictures is part of the ocean.

Twice each day the water slowly rises on the beach, and twice it slowly falls and lays the beach bare.² It takes about six hours for the water to rise, and about six hours for it to fall. This rise and fall of the water is called *the tide*.

Where is the water line at high tide? Where is it at low tide?

¹ Find all these forms on the map of the United States on page 90.

² A few places have only one tide a day, and a few other places have more than two tides.

a body of water connecting two larger bodies of water. An isthmus connects two bodies of land with each other.

A long and shallow strait is sometimes called a *sound*. The name *sound* is also given to shallow bodies of water lying between islands and the mainland.

Some straits are many miles wide, and are very deep, but they



are narrower than the bodies of water which they connect.

In many places arms of water reach into the land. Some of these are called *bays*, some are called *gulfs*, and others, *seas*.

There are bays, gulfs and seas so wide that steamers cannot cross one of them in a day.

How does a bay differ from a peninsula?

Turn to the picture on page 9. If the tide were to rise into these low valleys, where would it first form islands? Where would it form peninsulas?

Can you find a place where there would be first an island and then a strait? In what parts of the valleys would there be the greatest number of little bays?

26. Work of Water on Shores.

Let us visit the seashore and watch the great waves roll in. How they roar as they tumble over and over! Have you ever bathed in the surf?

What is gravel? Which bank in the picture is made of gravel?

Waves often strike against this bank, and wear parts of it away. Why does the water not make the bank as steep as the rocky cliff?

Where do the pebbles and larger stones on the beach come from?

What becomes of the sand that falls with the pebbles from the gravel cliff?

Find the clay cliff. Where do the large stones on this shore come from? Find a stone on the face of the cliff. When will it fall?

In some places ice rubs against shores and helps to cut and wear them away. Many tons of sand, pebbles and even large stones are held by the ice, and are carried out to sea by it. What becomes of them when the ice melts?

Waves often wash gravel against cliffs, and thus slowly cut them away. Frost splits and loosens the rocks.

Can you see the place where a part of a cliff has lately fallen? What will become of the loose earth at the foot of the cliff?

Can you tell what made the caves in the middle cliff?

Find the picture which shows surf breaking over rocks. This rocky ledge was once a part of the main shore. After a long time the waves may wear away the whole ledge.

The island in the calm sea is like a low hill which has partly sunk beneath the water.

Have you ever seen seaweed growing on rocks? Which do water and gravel wear away more quickly, bare rocks or the rocks which are under seaweed?

In some places the sand and pebbles that are worn from soft cliffs and beaches spread out and make the water shallow along the shores.

Great waves that roll in from the sea often strike upon shallow bottoms, and wash sand and pebbles up onto the beaches. In some places the wind then blows the sand into drifts, like snow, and carries it far inland.

Plants sometimes grow in beach sand, and keep it from drifting. Which picture shows a low, grassy shore?

An arm of the sea, or of any other body of water, in which ships find shelter from storms, is called a *harbor*.

Some harbors are made by building long walls out into the water. These walls break the force of the waves.

The best harbors have deep water and high shores. Can you tell why deep water is needed? Of what use are the high shores?

Would you expect to find the best harbors on rocky coasts, or on sandy ones?



27. Points of the Compass.

Point to the place where the sun rises. How often does it rise?

Where is the sun at noon? Where does it set?

Try to find out at what time of day your body casts the *shortest* shadow on level ground.

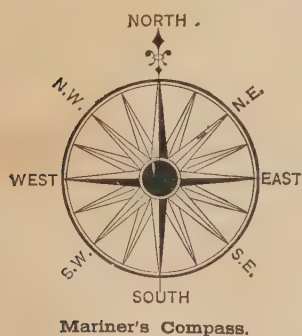
At midday all shadows point *north*, away from the objects that cast them.

Turn your face to the north. Are there any trees, hills or houses north of you?

Turn your back to the north. You are now facing *south*. Name some objects that you can see south of you.

When you face the north, *east* is on the right, and *west* is on the left.

The sun rises in or near the east. It sets in or near the west. Point to the east, and then to the west. Name some objects that are east of you. Name some that are west of you.



Point halfway between north and east. This direction is called *northeast*. It is often written N. E.

Where will you look for *northwest*? For *southwest*? For *southeast*? Can you name a street that runs northeast and southwest?

28. How Maps are Made.

How long is the top of your desk? How wide is it?

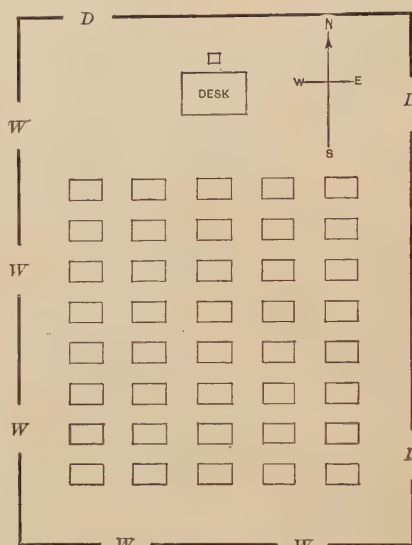
Draw the top of your desk, making the drawing one eighth as long as the desk.

How long is the school-room? How wide is it?

Draw the sides and ends of the floor. Let one half of an inch on the paper stand for one yard on the floor.¹ Put all the desk-tops in the drawing.

This picture of a school-room will show you how to draw yours.

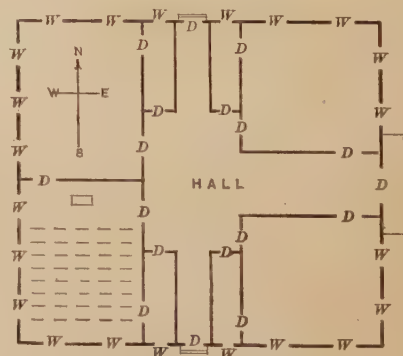
Draw the room again, and let one eighth of an inch stand for one foot. Mark places for windows and doors.



Plan of a Schoolroom.

Make a drawing or *plan* of the lower floor of the whole building. Use one fourth of an inch for each yard.² Make lines to show where all the walls are placed. Mark places for doors and windows.

Draw a plan of the same floor, using one eighth of an inch for a yard.

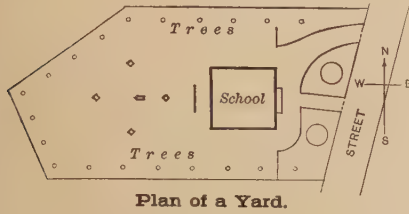


Ground Plan of a Schoolhouse.

¹ If the room is very large, allow one fourth of an inch for a yard.

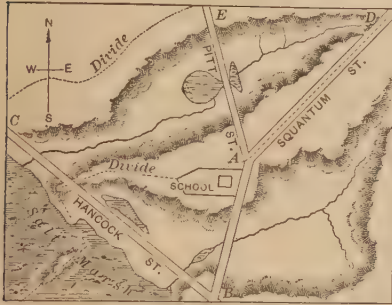
² In some cases, teachers may find it necessary to name scales, differing from those given.

Make a plan of the school yard. Allow one inch for twenty-five feet. Draw lines for the



Plan of a Yard.

A plan of any part of the earth is a *map*. Here is a map of a school district. One



A School District.

Make a map of a part of your school district.¹ Put in it the brooks, ponds, hills, streets and shores, if there are any.

You can measure distances by counting the number of steps it takes to travel each distance. Call each step a *pace*.

¹If pupils cannot go outdoors to make a map of their district, the different members of the class can doubtless furnish enough facts for making a simple map indoors. City pupils can make a plan of a park, or of a few blocks or squares near their school.

walks and gates. Make dots for trees.

Mark the place where the school-house stands.

One eighth of an inch was used for fifty yards.

On page 8 there is another kind of map of the same district. It is called a *relief map*.

29. Reading Maps.

Let us study these four small maps, and learn what they show.

Find in map I. the City Hall and Post Office. It takes about two minutes to walk from one of these buildings to the other. This map includes a few streets in the city of New York.

The next map shows the rivers on two sides of the city, with wharves all along the water front.

Can you find the City Hall in map II.? Why is it drawn so small? See how narrow the streets in this map are made.

Map III. includes several cities. In this map the streets are shown by very fine lines. The buildings and wharves no longer appear. See how far New York extends up the Hudson river. Brooklyn is part of New York city.

Can you find New York on map IV.? Where is Albany? The distance from New York to Albany is more than a hundred miles.

What river flows from Albany to New York? Where are the Catskill mountains? Where is the East river?

Why are the streets of New York not drawn on map IV.? How are the rivers shown on this map?

These little maps show how the large maps in this book were made. Can you find New York on the large map of North America?

I.

II.

III.

IV.



Maps of New York and Vicinity.

THE EARTH.

30. Form and Size of the Earth.

The line on the earth where earth and sky seem to meet is called the *horizon*.¹

The horizon surrounds us on every side.

Were you ever on a high hilltop? If so, did you see the same horizon that you could see from the lower land?

Which picture shows vessels going to sea?

You can look over the sails of one vessel, and see the water beyond. Another is sailing

¹ This line is often called the *skyline*, and the name *horizon* is applied to the circular skyline, as seen on the ocean.



Vessels on the Horizon.

out of sight. Only the sails can be seen. The hull is below the horizon.

Can you see the smoke of the steamer that is below the horizon? If the earth were flat, could vessels go out of sight in this way?

Here is a map of the moon.

Find the long ridge just below the middle of the moon. This ridge is a mountain range. It is so long that it would take a swift train of cars all day to run from one end of it to the other.

Have you ever blown soap bubbles? How pretty the little *globes* look as they float away. When the moon is pale and round, does it look like a great bubble?

If we were far off in the sky, the earth would appear like a great moon.

The moon is a very large ball, but the earth is many times larger. We see so small a part of the earth at a time that it does not look round like a ball.

The *circumference*, or the greatest distance round the earth, is about 25,000 miles. The *diameter*, or the greatest distance through it, is about 8000 miles.



Map of the Moon.

31. What a Hill is Made of.

This picture shows a deep cut on the side of a hill. Point to the solid rock.

What rests upon the rock?

Upon what does the water flow?

What is sand? What is clay?

Of what is the hill in the picture made?

What is a pond? What flows in all brooks?

Have you ever seen any part of the earth that is not made of rock or of water?

What do we breathe? What is wind?

Where do clouds form? What comes from clouds?

Where does rain go?

32.**What the Earth is Made of.**

By far the greater part of the earth is a ball of rock. This great ball is not smooth. Hills, mountains, plateaus and valleys make rough places on its surface.

The lower parts of the surface of the rocky ball are covered with water. The parts that are above water are called *the land*. You can see the land all about your school.

We have learned that for ages and ages rocks have been decaying, and streams have been washing a part of the fine rock down to the lowlands.

In most places there is a thin layer of fine rock, or soil, over the solid rock.

Water covers about three fourths of the surface of the earth. The other fourth of the surface is land.

What is under the water?

If we picture the earth about the size of an apple, the water will form a layer about as thick as the peel of the apple. You must not think that the water is really a *thin* layer.

The earth is very large, and in places the water is four or five miles in depth.

33. The Air.

Drop a small piece of paper. How did it move? Why did it not fall straight down?

Drop another piece. Did it fall like the first? Can you make two pieces fall in the same place?

Can you see the air? Can you feel it? Swing your hand in the air.

These words may help you to think of some of the uses of air: bird, ship, windmill, rain, breath, balloon, plant, wave.



Section of a Hill.

34. The Shell of Air.

We live and move in the air. We feel it about us, we breathe it, and set it at work to drive ships and to turn windmills.

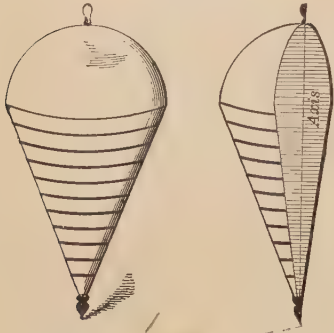
How gentle the air is when calm. How strong it is in angry gales.

We do not know how far the air extends above us, but we do know that the upper air is very thin. If we should go up only three miles, many of us would suffer for breath.

The air surrounds every part of the earth, like a shell.

35. The Poles.

Find the dotted line in the top. It runs from the head to the peg. When the top spins, every part turns round this line.

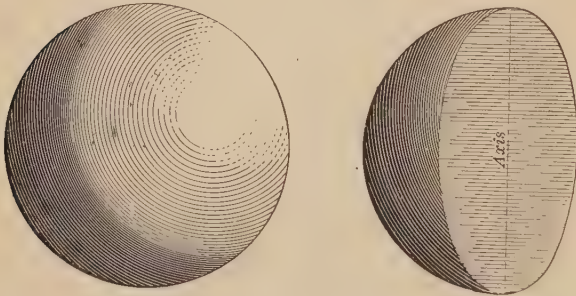


We will call this line the *axis* of the top.

The earth has no head nor peg, but it spins like a top. It takes a day and a night to turn once round.

We may *think* of a line in the earth like that in the top. It is called the *axis* of the earth. Once in twenty-four hours every part of the earth turns round the axis.

The ends of the axis are called *poles*. The



word *pole* means *pivot*, or point upon which anything turns.

The earth seems to float in the sky. It

turns on its axis, just as if the poles (or ends of the axis) were pivots; but, of course, the earth does not rest upon anything.

When you go out to play, toss up a ball and make it spin in the air. As the ball spins, try to tell in what direction its axis points.

Can you find the *north star*? Point to the place in the sky where it shines.

The axis of the earth points to the north



star. The end of the axis under this star is called the *north pole*. The other end is the *south pole*.

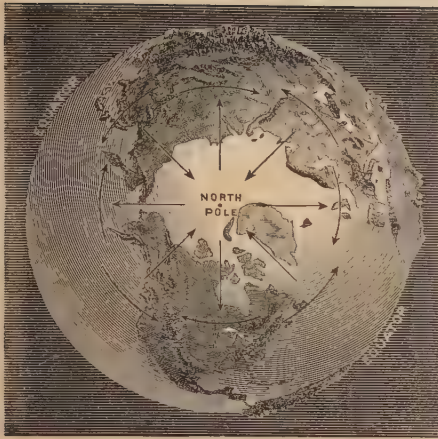
If you were at the north pole you could see the north star over your head. The north star is often called the *pole star*. Can you tell why?

The land and water about the poles are buried under ice and snow. Many polar bears and seals are found in the frozen regions of the north. Upon what do the bears feed?

From every place on earth, *north* is towards the north pole. *South* is towards the south pole.

Lines are often drawn from pole to pole on maps. All such lines run north and south.





Map A.

How many arrows on map *A* point north? How many point south?

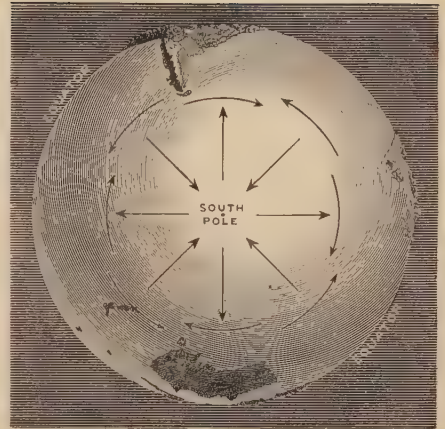
Which arrows point north on map *B*? On map *C*?

Which arrows point south on map *B*?

On map *C*?

36. The Equator.

We may think of a line drawn round the earth, halfway between the poles.



Map B.

This line is called the *equator*.

It divides the surface of the earth into two *equal* parts. Find the equator on the map.

The lowlands near the equator have no winter. The hot or warm season lasts all the year.

The equator extends east and west. Other lines may be drawn in the same directions. When we face the north, *east* is along the lines to the right, and *west* to the left.



Scene near the Equator.

Which arrows on map *A* point east? Which point east on map *B*? On *C*? Which arrows point west on map *A*? On map *B*? On *C*?

Find the north pole in map *D*. Which lines in this map run east and west? Which north and south?

When we face the south pole does east follow the arrows to the right or to the left, round the pole?

As the earth turns round on its axis, one side is light and the other side is dark.

One side has *day*, and the other has *night*.



Map C.

Which side of the earth is light? When will that side be dark?

What part of a ball can be lighted by one lamp? How large a part of the earth can be lighted by the sun at one time? The earth turns from west to east, and the sun is therefore first seen in the east.



Map D.

SURFACE OF THE EARTH.

37. The World Ridge.

Four long highlands form a loop that bends nearly round the earth. This loop of high land is called the *world ridge*.

The *key map* on page 25 shows the highlands in this loop.

The world ridge is not sharp like the

oceans or by long gulfs, bays or seas. The four long highlands of the world ridge form the backbones of four continents. The *Andes highland* is in the western part of *South America*; the *Rocky mountain highland* is in the western part of *North America*; the *highland of Tibet* extends



Relief Map Showing the World Ridge.

roof of a house. In many parts it is hundreds of miles in width. The greater part of it consists of wide plateaus.

The world ridge is shaped like a horseshoe. The great highlands are clearly shown on the relief maps on pages 32, 36, 42, 46 and 50.

The parts of the world ridge are in great bodies of land called *continents*. The continents are wholly or partly separated by the

nearly east-and-west in *Asia*; the *highland of Abyssinia* is in the eastern part of *Africa*.

Asia, *Africa*, *North America* and *South America* are the largest four continents. *Europe* and *Australia* also are continents. *Australia* is a very large island southeast of *Asia*.

Europe and *Asia* really form one great body of land, — *Asia* being the large eastern part, and *Europe* the small western part. *Europe* does not contain any part of the great loop of highlands forming the divide between the oceans.

What two capes are near the ends of the world ridge? See maps of *Africa* and *South America*.

On which side of the equator are the ends of the world ridge? In how many places does the equator cross this chain of highlands?

Near what part of the world ridge is the north pole?



Key to Relief Map.

38. Andes Highland.¹

In what part of the world ridge is the Andes highland? In what direction does it extend?

The Andes highland reaches one fifth of the distance round the earth. It consists of a long and narrow plateau, with many ranges of mountains.

Some of the peaks of the Andes are so high that snow lies on them all the year.

On which side of the Andes are the great plains?

A very useful animal, called the *llama*, is found in the Andes. This little beast sometimes carries loads on its back over the mountains.

The llama has a thick pad on the sole of each foot, and is well fitted to climb steep rocky paths.

A few years ago, long trains of llamas often went winding down the mountain sides, with loads of *silver ore*,—the rock from which silver is taken. On the return trip the llamas carried food, clothing and tools to the people who worked in the silver mines far above the coast.

Cars and mules now carry most of these goods.

¹ The lessons in small type, in connection with pictures, are for supplementary reading. The more important text is in large type.



Outside the World Ridge.

39. Rocky Mountain Highland.

Where is the Rocky mountain highland? In what direction does it extend?

This mass of land is about as long as the Andes.

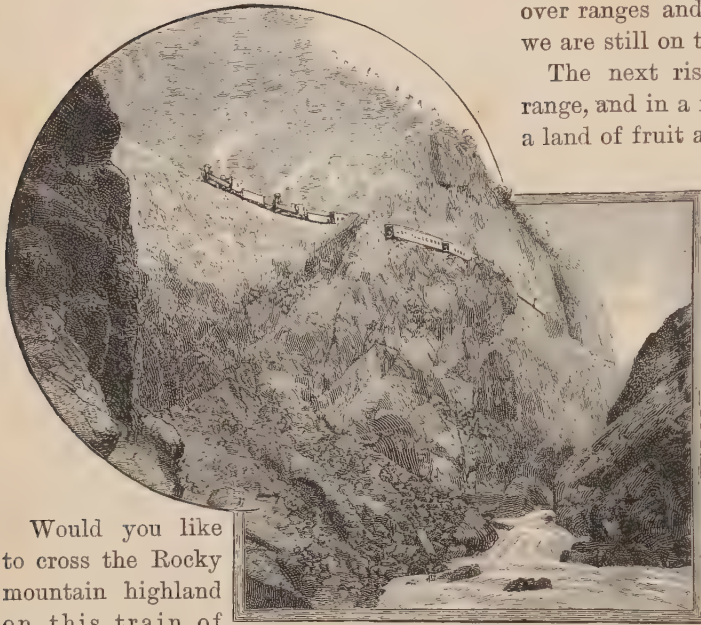
Which of these highlands looks wider than the other? Which looks the higher?

The Rocky mountain highland consists of a wide plateau, broken by lofty ranges, and cut by deep valleys. It crosses our country.

The main range is called the *Rocky mountains*.



Llama.



Crossing the Rockies.

Would you like to cross the Rocky mountain highland on this train of cars? How the iron horse must puff on the steep slopes!

In some places the track winds along the bottoms of deep canyons, and crosses long bridges far above rushing streams. In the high ranges, and even along the plateau, the road is often blocked with snow.

Many of the sights are grand. The train dashes round lofty points from which may be seen mile after mile of rugged peaks, and it glides into wide valleys which seem alive with cattle and sheep.

Hour after hour the train rushes on its way. Night comes on, but even while we sleep the cars speed



Peak of Kilimanjaro, Africa.

over ranges and through valleys. The sun rises and sets, and we are still on the great world ridge.

The next rising sun finds us on the crest of the border range, and in a few hours we descend from snowy passes into a land of fruit and flowers.

40. Highland of Tibet.

Find on the map the highland of Tibet. In what direction does it extend?

This mass of land is the highest on earth. Some of its snowy peaks rise about five miles and a half above the level of the sea.

On which side of Tibet are the longest plains?

The musk deer lives far up on the highland of Tibet. See how large its toes are. When the lively little creature leaps from rock to rock, its toes seem to grasp the sharp points.

The musk deer feeds on moss and grass that grow far up on the ranges.

Thousands of these creatures are killed every year for the little sacs of musk that form beneath the skin. This musk is used in making perfumery.



Musk Deer.

41. Highland of Abyssinia.

The fourth great mass in the world ridge is called the highland of Abyssinia. Show on the map where it is.

In what direction is Abyssinia from the end of the world ridge that is nearest it?

Let us try to climb this high mountain. It stands near the equator, a little distance south of Abyssinia.

Large banana plants and palm trees grow at the foot of the mountain.

Up we go! Now we can look far out over the lowlands. The air is cooler. See the great trees with moss growing on their trunks and branches.

At length we reach grassy places and clover patches, on the mountain sides. Now we have passed the clover, and find only bushes and bare rocks.

Here is the edge of a great snowcap. We can climb no farther, and yet the top of the peak is far above us. This peak is very high, but many of the peaks in the highland of Tibet are much higher.

42. Slopes from the World Ridge.

Each of the four great highlands sends out a long slope on one side, and a short slope on the other side. The long slopes are inside the world ridge. In most places they make wide plains before reaching the level of the sea.

The slopes outside the world ridge are shorter than those inside. In most places the short slopes form only a narrow lowland along the shores.

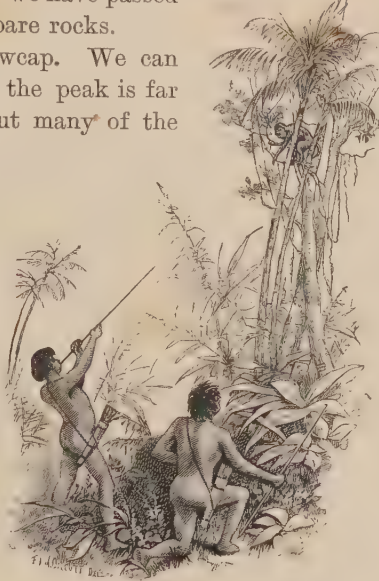
43. Selvas.

Vast forests, called *selvas*, cover a large part of the slope east of the Andes highland. Long rivers wind through these forests and often overflow the land.

Find the word *selvas* on the map on page 25.

Many tribes of Indians live along the borders of the streams. They spend their time catching fish, and shooting birds and small animals.

Is the air cold or is it warm in the place where these Indians live?



Natives of the Selvas.

44. Western Plains.

Where is the Rocky mountain highland? What have you read about this part of the world ridge? On which side of the Rocky mountains is the long slope?

A very large part of this slope consists of wide *plains*. In some places they are barren, but in other places they are covered with grain and cotton.

Just east of the Rocky mountains the grassy slopes feed large herds of cattle. These grazing plains stretch away for hundreds of miles. Perhaps some of the meat which you have eaten came from these plains.

45. Tundras.

Find the word *tundras* on the map. The tundras are marshy and mossy plains that form a part of the long slope far to the north of Tibet. They lie along the shore of a very cold sea. In most places the soil of the tundras is frozen to a great depth. In summer it thaws slightly at the surface.

Herds of *reindeer* feed on a small gray plant, called *reindeer moss*, that grows on the tundras. On page 81 there is a picture of these dreary plains. South of the tundras there are large forests and grassy slopes.



Cattle Ranch on the Western Plains.



46. Desert of Sahara.

Find on the map on page 25 the place marked *desert*. On pages 49 and 52 there are pictures of parts of this desert.

Have you ever seen any land like that in the pictures? How does it differ from the land near your school?

The desert is very dry, and most parts of



it are covered with sand. Perhaps the little children there never saw any rain.

South of this dry land there are long rivers flowing through dense forests and over grassy plains.

47. The Grand Divisions.

What strait cuts across the world ridge?

Where is South America? Where is North America? What isthmus joins these two parts of America? Which part is the larger?

What lands are joined by the isthmus of Suez?

Where is Europe? Which is the larger, Europe or Asia?

What very large island is southeast of Asia? Which looks the larger, Europe or Australia?

What lands are crossed by the equator? On which side of the equator is the greater part of the land? On which side is the greater part of the sea?

Which of these large bodies of land lie wholly north of the equator? Do any lie wholly south of the equator?

South America, North America, Europe, Asia, Africa and Australia are called *grand divisions* or *continents*.

What continents are in the Old World?





48. The Oceans.

The sea, or ocean, covers nearly the whole of one side of the earth, and also a large part of the other side.

What name is given to that part of the sea which is round the north pole? To the part round the south pole?

What ocean is east of America? On which side of the Old World is the Atlantic ocean?

What ocean is west of America? On which side of the Old World is the Pacific ocean?

What ocean is south of Asia? What land is west of the Indian ocean? What land is east of it?

What lands border on the Pacific ocean? On the Atlantic ocean? On the Arctic ocean?

What oceans touch the shores of North America? Of Asia? Of Australia? Of Africa? Of South America?

Which is the largest ocean? Next in size?



49. The Bottom of the Sea.

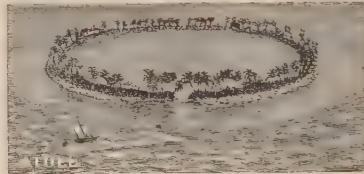
In some places there are very long and wide banks under the sea. The tops of many ranges and ridges also rise above water, and form islands.

Many volcanoes rest upon the bottom of the deep sea. Their peaks form hundreds of lonely islands, far out in the ocean. Most of these volcanic islands are in the Pacific ocean.

By far the greater part of the bottom of the sea is a vast smooth plain.

Sunlight does not go very far down in the sea. If we were to sink in this great body of water, we should find the light growing fainter as we went deeper. At less than one fourth of a mile below the surface, the ocean is always in darkness. Yet, in some places, the water is five miles in depth.

Near the surface of the sea, and on the bottom, there are many kinds of fish and other creatures. At times the shallow water near the shores of the grand divisions seems to be alive with fishes.



50. Coral Islands.

(A Reading Lesson.)

Have you ever heard of the pretty islands that grow in the sea? Let us visit one of them, and find out how it grows.

The water round the island is clear, and we can look far down into it. What are those little branches that grow under the water? Reach down with a long pole, and break off a branch.

It looks like a small tree, but it is as hard as stone. There are tiny soft spots on the sides and ends of the branch.

This is one of the wonders of the sea. Each soft spot is a living body. It has a mouth and a stomach, and takes its food from the water.

This tiny creature is called a *polyp*, and the hard part is *coral*. The coral is part of the body of the polyp.

Some polyps grow in form like trees, and send out buds that form branches. The polyps on the branches bud again, and thus a dense coral forest grows.

Polyps lay tiny eggs in the water, and the eggs float about. If they reach a rocky bank or a hard bottom where the water is shallow, clear and warm, they start another forest of coral.

When the coral has grown nearly to the surface of the sea, waves break off many branches and wash them onto the top of the coral mass. Each storm sends up more, till the bank rises above the water and forms an island.

The waves soon grind some of the coral to powder. Sea-plants drift to the new shore, and mix with the coral dust. Soil is thus formed on the island.

Fine seeds are carried many miles by winds in storms. Other seeds drift with the sea from shore to shore. In some such ways seeds reach the new island, and grow to trees or smaller plants. Now the coral island is ready for man to come and make it his home.

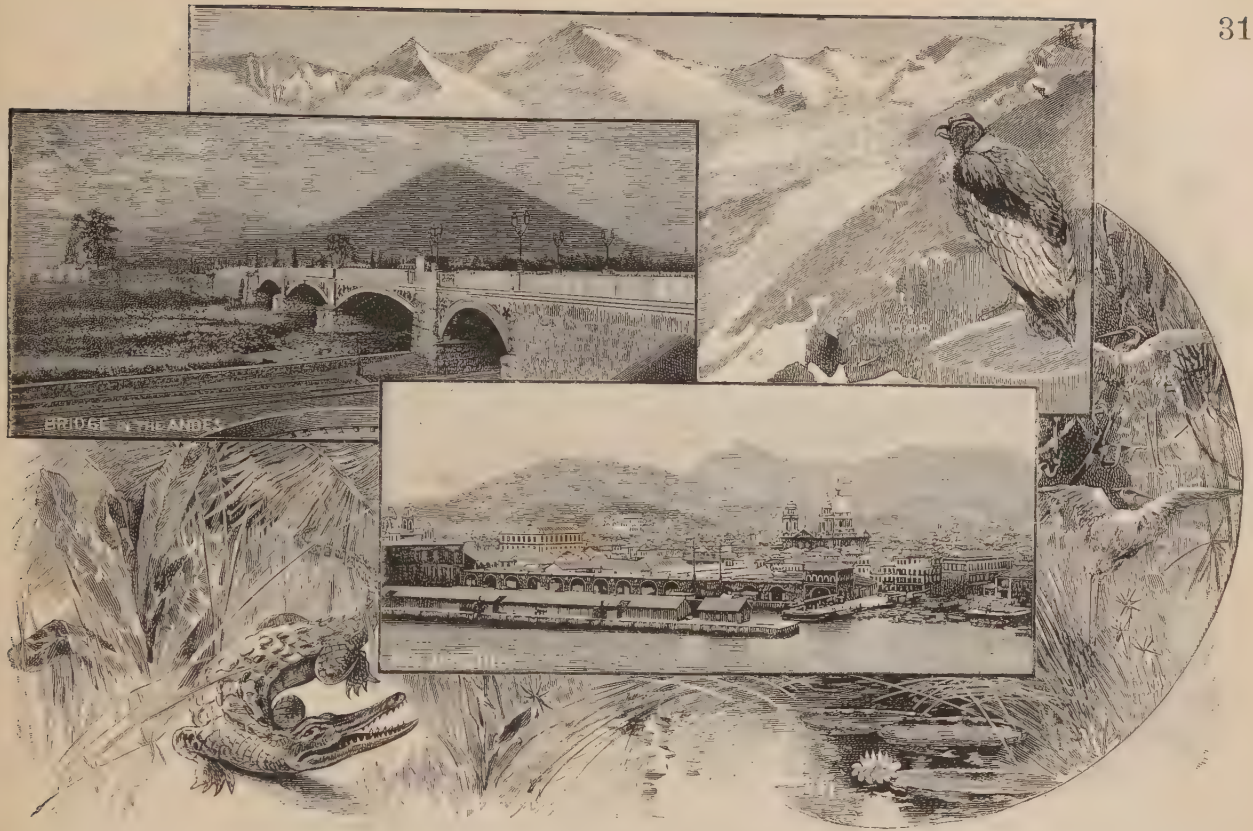
In the warm parts of the ocean, polyps have made many long banks, or *reefs*, along the shores of islands and continents.

Ships often strike upon these reefs, and are wrecked.¹

There are many kinds of coral, and they take many pretty shapes.²

¹ The famous war vessel, *Kearsarge*, was wrecked on a coral reef.

² It is often stated that islands like that in the picture are built upon other sinking islands. It is now thought that this has taken place only in rare cases, if in any.



SOUTH AMERICA.

51. Surface of South America.

Cape Horn is at one end of the world ridge. It is on a great mass of rock, rising from the sea.

Round this bleak point the sea is often very rough and stormy. Icebergs, or huge blocks of ice, sometimes drift past this cape.

The Andes highland extends northward from cape Horn. How long is this highland?

The widest part of the Andes highland is near the great bend in the Pacific coast. Here the ranges inclose a lofty plateau.

On this part of the highland lies the beautiful lake Titicaca. It is about two miles and a half above the level of the sea.

Steamers cross this lake, and connect the villages with a railroad that winds down to

the coast. Rich grainfields spread round lake Titicaca, and the mountains that inclose its basin have rich silver mines.

What part of South America is crossed by the equator?¹

Near the equator stands a group of noted volcanoes. Among them spread high and fertile plains.

Where is the isthmus of Panama?

The Andes highland covers about one sixth of this grand division.

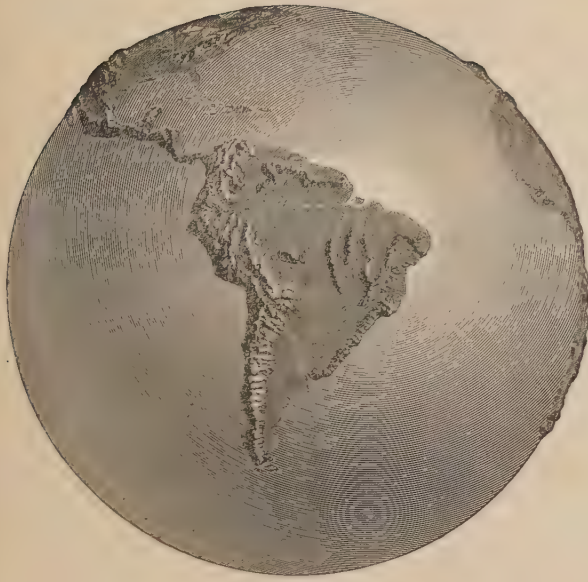
The long slope of South America is on the east of the Andes highland. What have you read about the selvas?

The long bridge in this picture is near the city of Lima. Find Lima and Rio de Janeiro on the map.¹

¹ See the colored map of South America.



RELIEF MAP OF SOUTH AMERICA.



52. Map Studies.

What oceans border on South America ?

What part of the world ridge is in South America ?
Along what coast does it lie ?

Which part of the Andes highland looks the widest ?
Which part looks the highest ?

On which slope of the Andes are there no long rivers ? Why ? Find cape Horn on the map.

Where is the isthmus of Panama ?



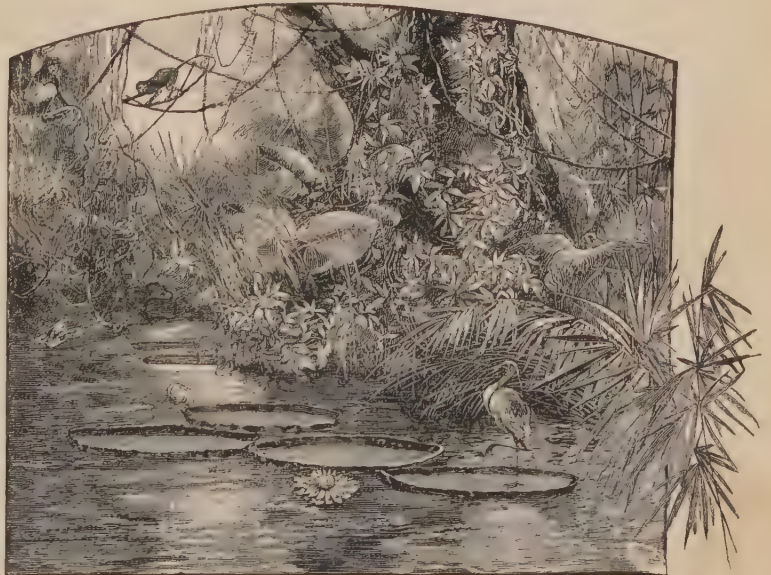
barrel. It is pink-white, with a golden center. The forest is so large that we might spend many years following the streams that wind through it. We should see wonderful sights,—trees whose sap is made into rubber, cat-like animals with bodies larger than our own, and great alligators basking in the sun.

53. Amazon River.

What large river near the equator flows towards the east ? Where does the Amazon river rise ? Would you like to sail up the Amazon river ? What large trees grow along the banks ! Long vines hang from the branches, and weave thick nets.

The river is very wide, and many little bays indent its banks. Let us enter one of them. Tall reeds line the banks, and grow far out in the shallow, muddy water. Beautiful birds flit about. Noisy parrots scream at us, and many monkeys chatter as we pass.

See the sleepy stork with long neck and long legs. It is standing on a large lily leaf that floats on the water. The blossom of this lily is as large as the head of a



Scene on the Amazon.

54. Highland of Brazil.

A highland rises near the east coast and extends far inland. This is the highland of Brazil. It is only about one sixth as high as the Andes highland.

The coffee plant needs warm weather and a great deal of rain.

See the pretty white blossoms and the little berries that look like cherries. When the berries turn dark red and begin to shrivel, they are picked and put into a machine that takes out the seeds.

Each berry has two seeds. Before the seeds are used, they are baked and ground. Have you ever seen a grocer grinding coffee seeds?

Most of the coffee used in our country is raised on the highland of Brazil.



Coffee Plantation.

sheep graze in this wide valley, and many miles of the rich soil are planted with grain.

Where is the Orinoco river?

A large part of the Orinoco valley consists of wide, grassy plains, called *llanos*. Large herds of cattle graze on the llanos.

55. Pampas.

Where is the Plata river? In what direction does the Plata basin slope?

Which is the larger, the basin of the Amazon or that of the Plata?

What highland divides the streams of these basins?

The greater part of the Plata valley is a vast plain. Its soil is deep and rich.

During the wet season, many parts of this plain are covered with tall, coarse grass, above which wave white silky plumes. The grassy plains of the Plata valley are called *pampas*.

Large herds of cattle and



Pampas Grass.

56. Isthmus of Panama.

This village is on the slender neck of land that connects the two Americas. What is the name of this isthmus?

Describe the houses shown in the picture of the Panama village.

A person on horseback can cross the isthmus of Panama in a day, but the ride over the hills is a long and hard one.

There is a railroad across this isthmus.



A Panama Village.

57. Surface of North America.

Where is the gulf of Mexico?¹

West of this gulf lies the plateau of Mexico. It is about a mile and a half above the level of the sea. High ranges of mountains lie along its borders and steep slopes descend from them to the shores.

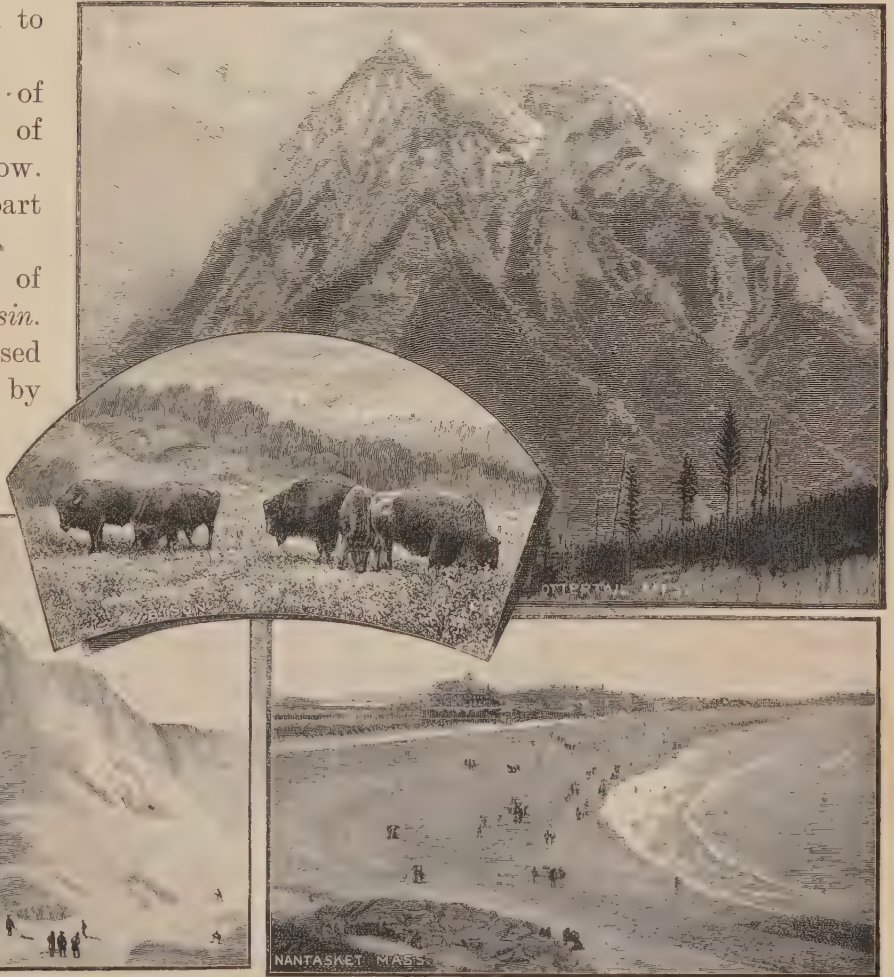
Between the isthmus of Panama and the plateau of Mexico the world ridge is low. Low ranges lie along this part of the Pacific coast.

North of the plateau of Mexico lies the *Great Basin*. It is a wide plateau, crossed by many ranges and cut by many valleys.

In most places the Great

Water is led to them from the mountains, and around them spread many fertile gardens.

Northward from the Great Basin the world ridge is lower and narrower.



Basin is very dry. Its surface is nearly a mile above the level of the sea, and border ranges shut out most of the rain clouds.

In this basin lies the Great Salt lake. Near its shores there are large cities.

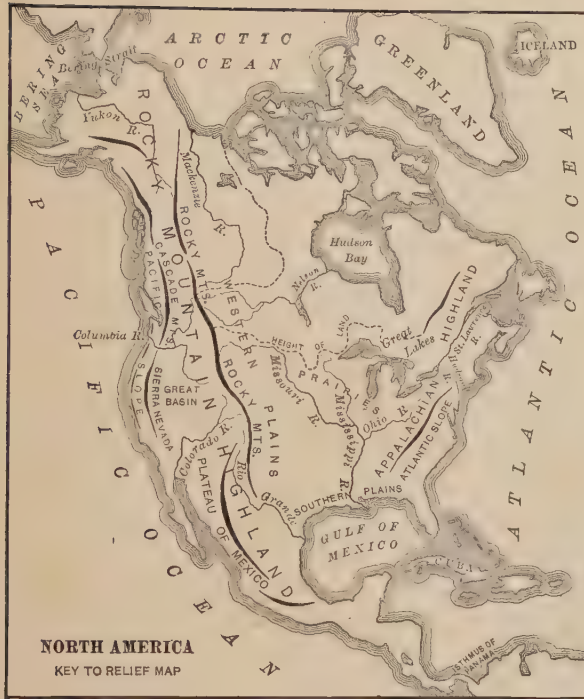
¹ See map on page 37.

The Yukon river is in the far north, and flows through a very cold country. Snow and ice cover the ground during a large part of the year.

The long slope of North America is on the east of the Rocky mountain highland.



RELIEF MAP OF NORTH AMERICA

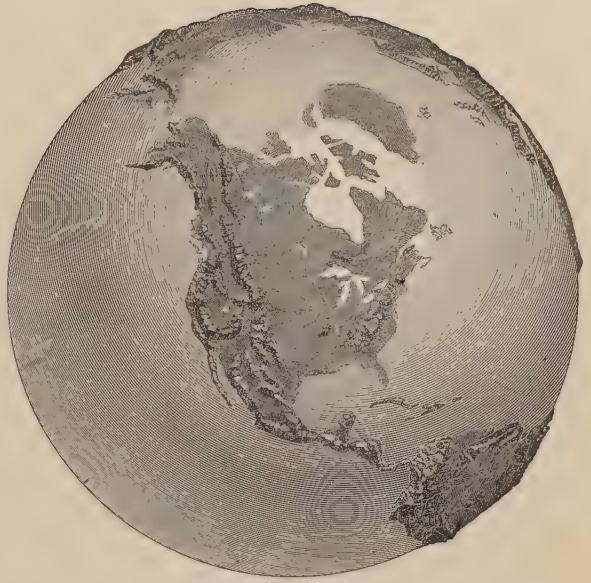


58. Map Studies.

Find on the map the place where you live.
 What oceans border on North America?
 Which part of the world ridge is in North America?
 Along which coast does it lie?



Mexican Children.



What does the relief map tell you about North America?

The children in the picture live on the plateau of Mexico. Can you tell whether their home is in a warm place or in a cold one?

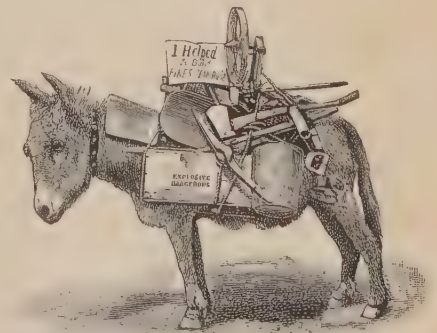
What kind of clothing do these children wear? Of what are the huts made?

This picture shows only country life. On some parts of the plateau of Mexico there are large towns and cities.

59. The Rocky Mountains.

Where are the Rocky mountains? In what direction do they run?

The lofty range of the Rocky mountains runs along the eastern border of a part of the world ridge.



Do you not think that this is a very heavy load for a little animal? What tools has he on his back? Can you tell what each tool is used for?



Canyon of Colorado.

Many of the branches of the Colorado river have also cut deep canyons in the rock.

In some places the land south of the Colorado river looks like that in the picture below. The valleys, or canyons, are deep and wide. The soil is poor, but it supports enough grass to feed thousands of cattle.

In the rainy months large streams rush through some of these canyons, but when the rain is over, the beds of the rivers are dry and sandy.

61. The Height of Land.

Where are the Great Lakes? How many of these lakes are there?

What large river flows from one of the lakes?

About halfway between the gulf of Mexico and the Arctic ocean a low swell of land runs eastward from the Rocky mountains. It is called the *Height of Land*.

Some parts of the Height of Land are hilly, but in most places the land slopes so gently that it looks level.

The Great Lakes are in a chain of valleys on the southeast slope of the Height of Land. The St. Lawrence river flows from the lowest of the lakes.

The Niagara river flows from lake Erie to lake Ontario. This stream is noted for the grand falls which are about midway between the lakes. *See map, page 91.*

Do you remember our long ride in the cars across the world ridge? We climbed into high passes, and rode through deep canyons. In places the road led along the sides of steep cliffs and across long bridges. Of course no wagons could cross those rough places.

Here the little donkey proves his worth. He can climb rocky paths and is not afraid to walk along the sides of steep cliffs. His slender legs are very strong, and he can carry a heavy load up the mountain sides.

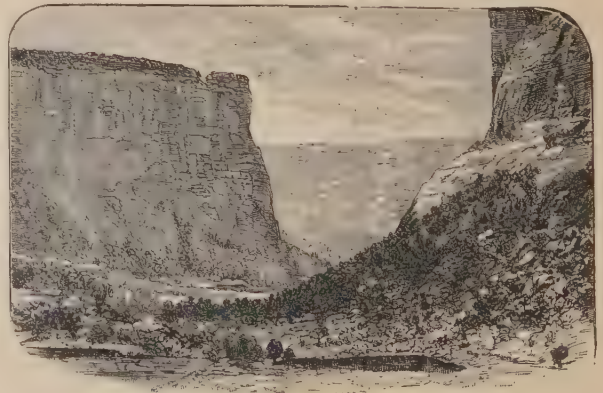
The donkey in the picture carried tools and food for men who built a railroad to the top of a high mountain, called Pikes peak.

60. Colorado Canyon.

Where is the Great Basin? What mountains are east of the Great Basin? What range is west of it?

What river basin lies south of the Great Basin? What river is on the north?

The Colorado river is noted for the deep valley which it has worn. In some places this stream flows between steep banks of solid rock, more than a mile in height.



Canyon in Arizona.

Just above the falls of Niagara the river is about a mile wide. Below this point the stream narrows and plunges over a precipice about one hundred and fifty feet in height.

Below the falls the river flows in a wide, rocky gorge.

The water that *in a single minute* makes the leap of Niagara would fill a box fifty feet wide, fifty feet high and more than a mile long.

A canal has been made between lake Erie and lake Ontario, and ships can go back and forth, without sailing upon the Niagara river.

62. The Mississippi Basin.

What large river basin is south of the Height of Land?

In what general direction does this basin slope?

Into what body of water does the Mississippi river flow?

What bounds the basin of the Mississippi on the west? On the east?

Where is the Ohio river?

What large river from the west flows into the Mississippi? Where does the Missouri river rise?



Niagara Falls.

In what direction does the Ohio river flow?
Into what does it flow?

Where are the *prairies*? Where are the *Western plains*? Where are the *Southern plains*?

The vast plains that spread round the Great Lakes on nearly all sides are called *prairies*. The soil in most places is deep and fertile.

Mile after mile of nodding cornflower, mile after mile of waving wheat, grassy fields dotted with sleek cattle,—these are some of the sights on the prairies in summer.

Mile after mile of drifting snow, mile after mile of frozen

streams,—these are some of the sights on the prairie in winter.



Prairie Scenes in Winter and Summer.

The Southern plains are very fertile, and they are warmer than the prairies. A great deal of corn is raised on these plains. Here are also vast fields of cotton. What have you learned about the growth of this useful plant?



Going to Market.

Perhaps some of the clothing which you now wear is made of cotton that grew on the Southern plains. What have you read about the Western plains?

63. North of the Height of Land.

Where is Hudson bay? A large river flows into Hudson bay, and another flows into the Arctic ocean.

The basins of these rivers are mostly in cold regions.

Northwest of the Great Lakes there are broad prairies, with many rich grainfields.

64. Appalachian Highland.

What highland is on the east of the Mississippi basin? Is it higher or lower than the Rocky mountain highland?

Why are there no very large rivers east of the Appalachian highland?

The mountains of the Appalachian highland are not very high. They consist chiefly of long rounded ridges or folds.

65. Atlantic Slope.

Many short rivers flow across the narrow plains east of the Appalachian highland. Some of these streams are deep enough to float large vessels. The slope east of the Appalachian highland is called the *Atlantic slope*.

Where is the Hudson river?

The largest city in America is at the mouth of the Hudson river.

Find out at home all you can about this city, — its long bridge, its great statue, its bay and its park.

66. Pacific Slope.

The slopes west of the Sierra Nevada and Cascade ranges are short, and some of them are very fertile. A low range lies near the shore of the Pacific. It is called the Coast range.

The picture on page 9 shows a very small part of the Pacific highland. This part is not very far from the southern end of the Sierra Nevada range.



Orange Grove.

Many beautiful groves of oranges and lemons grow in these warm valleys, along the foot of the ranges.

The region west of the Sierra Nevada and Cascade ranges is part of the *Pacific slope*.

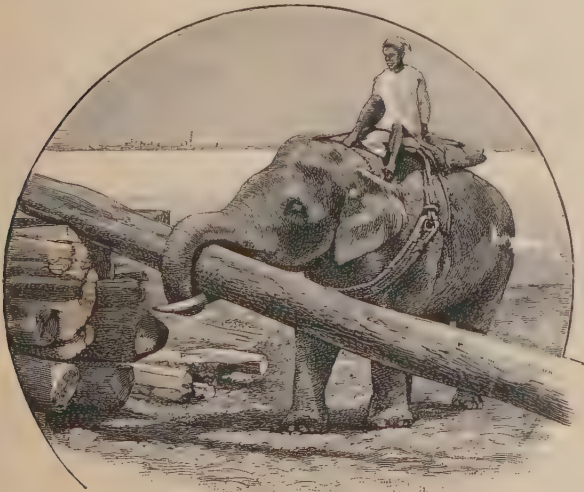


ASIA.

67. Surface of Asia.

Asia is the largest of the grand divisions. Its area is nearly equal to that of America.

The highland of Tibet is the highest part of the world ridge. Its plateau is nearly three miles above the level of the sea, and some of its peaks are almost as high again.



Working Elephant.

The giant range of Himalaya mountains rises at the southern edge of Tibet. The word *Himalaya* means the *abode of snow*. Even during the hottest part of summer a white mantle covers this range for a distance of about two miles from its crest.

Mt. Everest, in the Himalaya range, is thought to be the highest peak on earth. It rises five miles and a half above the level of the sea.

On the north, east and south, vast slopes stretch away from Tibet. They form wide plains along the shores of three oceans.

The pictures show a Himalaya peak, a group of natives on the tundras and a bathing scene in a large river south of Tibet.

What is the elephant doing?



RELIEF MAP OF ASIA



68. Map Studies.

What oceans lie between North America and Asia?
What ocean is south of Asia?

Where is the highland of Tibet? On which side of Tibet is the longest slope?

In what direction would you have to travel from your home to reach Asia?

What strait separates North America from Asia?
Look at the relief map, and describe Asia.

69. Arctic Slope.

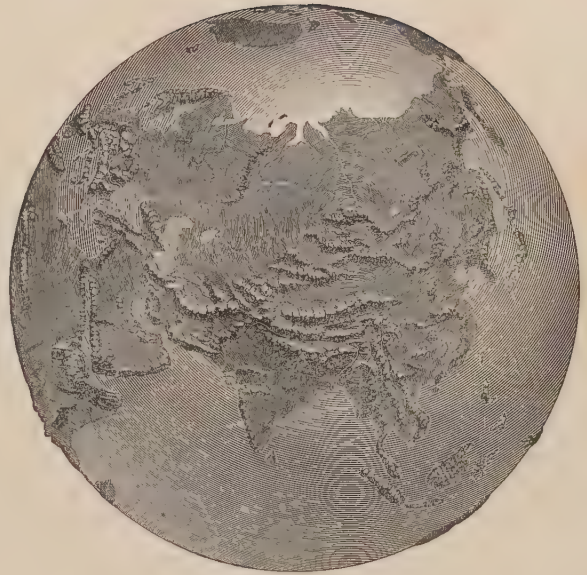
The longest slope in Asia extends northward to the Arctic coast. A large portion of this slope is a vast low plain, and is crossed by several large rivers.

During the greater part of the year the Arctic coast of Asia is icebound. The ice then reaches from the shore to the north pole.

What have you read about the *tundras*? Where are they?

A dense forest covers a large part of the plain south of the tundras. In this forest live many little animals that are hunted for their thick fur.

Here is found the cunning beaver. It feeds on berries, leaves and bark. The beaver builds its hut at the edge of a river or lake.



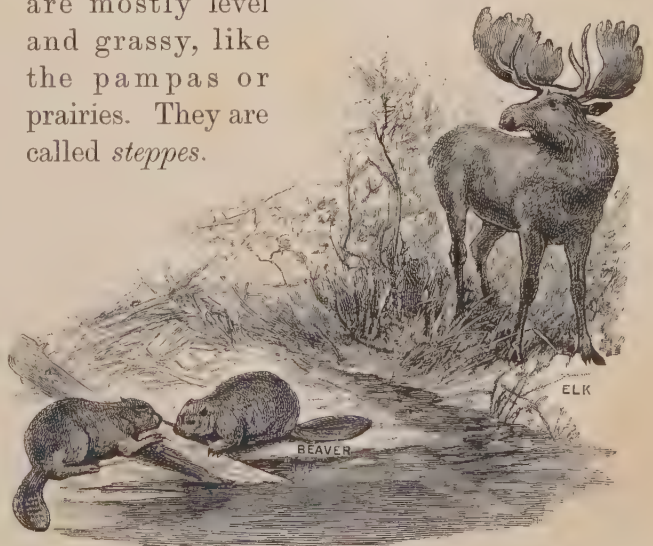
Do you know any stories about beavers? Have you ever seen any beaver fur?

The elk is a very large kind of deer that is found in the northern parts of Asia and Europe.

70. Caspian Basin.

Where is the Caspian sea? Can you find any streams flowing from this sea to the ocean?

The great plains around the Caspian sea send no rivers to the ocean. These plains are mostly level and grassy, like the pampas or prairies. They are called *steppes*.



Large herds of cattle and horses graze on the steppes.

The Caspian sea has no outlet, and it is therefore salt. Several large rivers flow into this great inland sea.



Tea Farm.

71. Plains of China.

The most important slopes of Asia are east and south of Tibet. On the east lie the plains of China, sloping to the Pacific ocean.

The tea plant grows on the plains of China, east of Tibet. It has a pretty white blossom, with a yellow center.

This plant is raised for its leaves. Several times a year the new leaves are picked and baked. They are then sent to people in nearly all parts of the world.

When fresh tea leaves are roasted quickly they form green tea. When dried in the sun and then roasted they form black tea. If you will unroll a piece of coarse *tea grounds* you will see a tea leaf.

72. The Ganges Basin.

The warm slopes of the Ganges basin lie south of Tibet. In what direction does the Ganges river flow? Where does it rise?

The Ganges river flows from melting ice and snow, far up on the side of the Himalaya mountains. Countless little streams rise near by and flow to join the Ganges.

This river enters the sea through a great delta which swarms with people. The soil of the delta is very rich, and here may be seen acres and acres of flat rice fields, with groves of bamboo and cocoanut trees.

One of the most useful products of southeast Asia is bamboo. This is a coarse grass, growing to the height of from fifty to seventy feet.

The seeds and tender shoots of the bamboo are used for food. The hollow stems make good water pipes.

Strips of the stem are used in making baskets, chairs, beds, boats and weapons.

Strong fibres of bamboo are woven into cloth and twisted into rope. The hull, ropes and sails of the vessel shown on page 78 were all made of this useful plant.

Many of the native huts are made of bamboo, with dried grass for roofs. Groups of such huts are often hidden by groves.



A Village near the Ganges.

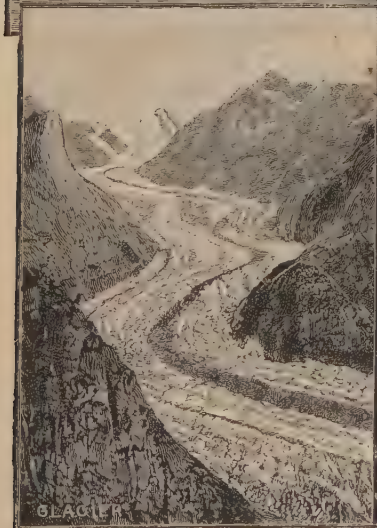
EUROPE.

73. Surface of Europe.

Europe lies west of Asia.

The greater part of southwest Europe consists of low plateaus and high ranges. This region is known as *High Europe*.

tops of some of the peaks are buried in snow and ice all the year. Long rivers of ice creep down the sides of the mountains, and melt, thus forming beautiful streams and lakes.



In summer, herds of cattle and flocks of goats feed on the high slopes, but as the snowcap widens on the ranges, the animals are driven into the lower valleys.

High Europe is cut off from southwest Asia by the Black sea and its outlet.

Low Europe includes the vast plains that lie

north and northeast of High Europe.

Where is the Swiss highland? Where are the Alps?

The Swiss *plateau* is low, but the ranges that rise above it are high and rocky.

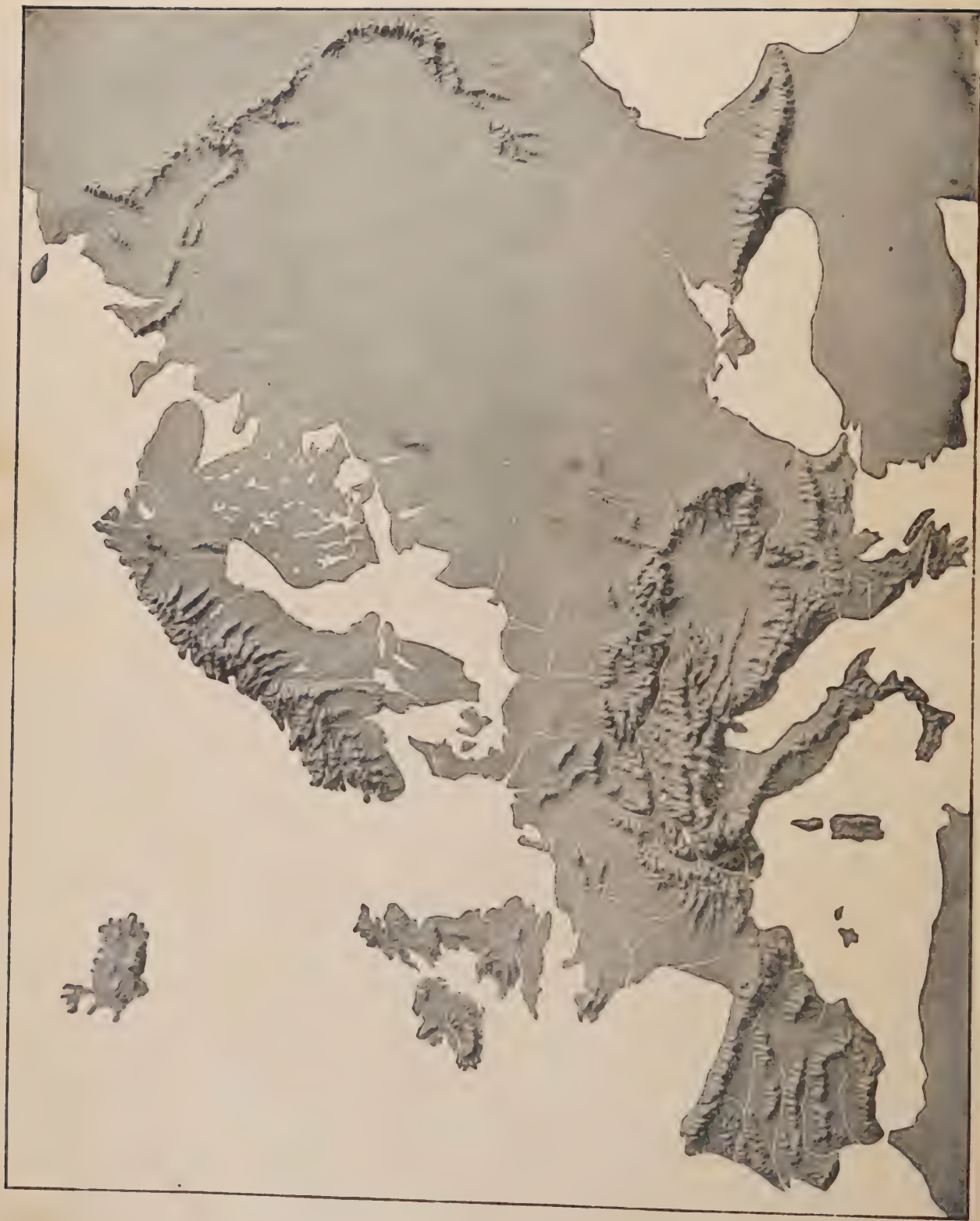
The Alps are famous for their beauty. The

A very old myth tells of a pretty maid, named Io, who was changed into a heifer, to conceal her from an angry goddess. Io swam the strait that forms the outlet of the Black sea.

The strait took its name from this story, for the word *Bosphorus* means *heifer's ford*.

At its narrowest part, the strait of Bosphorus is only a few hundred feet wide.

The great city of Constantinople is built near this strait. See colored map of Europe.



RELIEF MAP OF EUROPE.



74. Map Studies.

Look at the relief map, and describe Europe. State where it is ; what large bodies of water surround it ; where its highlands and lowlands are, etc.

On which side of the world ridge is Europe ?

75. Slopes from the Swiss Highland.

The slopes that extend from the Swiss highland to the sea are short, and the river basins are small.

Where does the Danube river rise ? In what direction does its basin slope ? Into what sea does the river flow ?

Where does the Rhine river rise ?¹
In what direction does its basin slope ?

What long peninsula is south of the Swiss plateau ? Where is the Spanish peninsula ?

The strait of Gibraltar connects the Atlantic ocean and the Mediterranean sea. Near this strait a huge mass of rock rises on the coast of Spain.

From a distance this *rock of Gibraltar* looks bleak and barren. A nearer view shows many grassy slopes, with groves of olive and orange trees.

At times wild flowers cover many parts of the rock. The deep caves that run through nearly every part



of this great mass have given it the name "hill of caves."

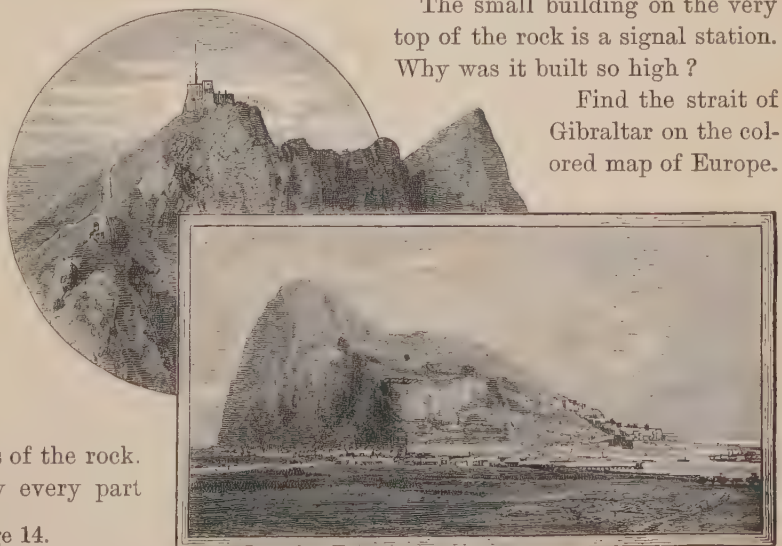
In these great hollows the rock has been changed to icicle-forms of great size and beauty. Some of these look like animals, and others look like forests of marble, rising to the roofs.

A few small apes live on the highest parts of Gibraltar. They often injure the fruits, but nobody tries to harm the little creatures.

Gibraltar is a strong fortress.² On some parts of the rock cannon bristle at every point.

The small building on the very top of the rock is a signal station. Why was it built so high ?

Find the strait of Gibraltar on the colored map of Europe.



Rock of Gibraltar.

¹ See pictures of the Rhine on page 14.

² Gibraltar belongs to Great Britain.

76. Russian Plain.

Where are the Valdai hills? Where does the Volga river rise? Into what sea does the Volga flow?

The Valdai hills rise only a little above the great plain of Europe. They contain the sources of many large streams.

The Volga river rises in a marsh in the hill region, and flows into the Caspian sea. The basin of the Volga is the largest river basin in Europe, but it is not one half so large as that of the Mississippi.

What seas receive streams from the region of the Valdai hills?

The vast plain that spreads round the Valdai hills is crossed by a network of canals. These connect with the rivers, and form the main highways of trade.

The canals reach lumber and fur regions on the north, rich mines of gold and silver in the mountains that lie to the east, and fertile grainfields on all sides.

In return for the products of these regions, the canals carry cloth, tea, sugar and farming tools to the people of the plain.

77. The Caspian Sea.

The Caspian sea is the largest body of water having no outlet to the ocean. Its area is much larger than that of the Great Lakes of North America.

The Caspian sea is salt, and its surface is a little below the level of the ocean.

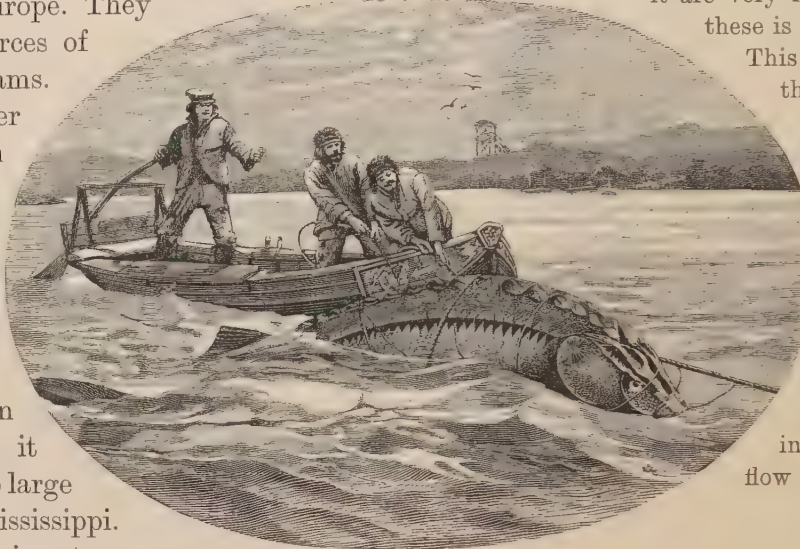
The Caspian sea is often swept by cold winds from the north. In winter the mouth of the Volga is closed by ice. During the open season many vessels trade at the ports by the sea and on the rivers.

The Caspian sea and the streams that flow into it are very rich in fish. Among these is the sturgeon.

This fish often grows to the length of ten feet.

Part of its body is covered with bony plates. Its mouth is small and toothless, and is under the long snout.

Many thousand people earn their living by catching fish in this sea and in the streams that flow into it.



Sturgeon Fishing.

78. British Isles.

What islands are west of the mainland of Europe?

A few low ranges cross the British Isles.

These are the most important islands on earth. The trade between the people of the British Isles and of the United States is very large.

Ben-Nevis is the highest mountain in the British Isles. Find it on the *key* map, page 47.



A Highland Cottage.

Ben-Nevis, Scotland.

AFRICA.

79. Surface of Africa.

A part of the world ridge extends along the eastern side of Africa.

Nearly all Africa is a plateau. The northern half is not so high as the southern.

also is in middle Africa. The main slope of this basin is towards the west.

Nearly all the northern part of Africa is a vast desert. It is called the *desert of Sahara*. Which picture on this page shows a part of the desert?



Ranges of mountains lie near the greater part of the coast. Between these ranges and the sea there are low, narrow plains.

The highest parts of Africa are in the east and south.

Where is the highland of Abyssinia? What have you read about a great mountain south of this region? The highland of Abyssinia is about as lofty as that of Mexico.

Africa has several very large river basins. Among these are the Nile and the Kongo.

The upper part of the Nile basin is in the plateau of middle Africa. This basin is long and narrow, and it slopes to the north.

The upper portion of the Kongo basin

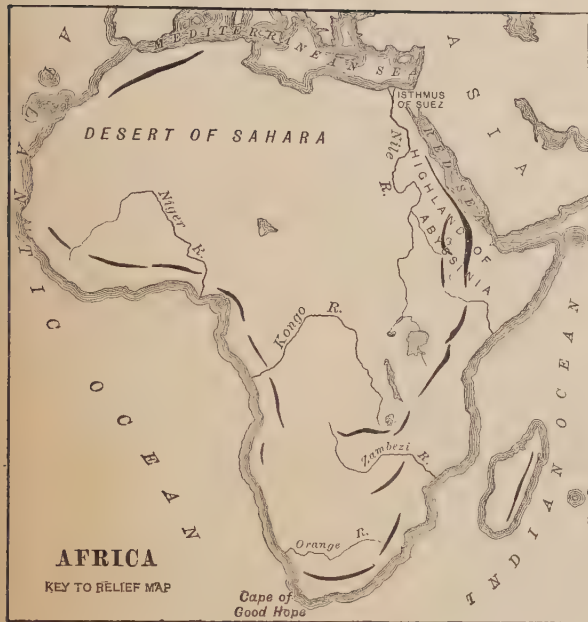


Africa is a land of large and fierce animals. On page 85 there are pictures of some of these?

Find the Atlas mountains on the colored map of Africa.



RELIEF MAP OF AFRICA.



-80. Map Studies.

What bodies of water surround Africa?

Look at the relief map, and describe Africa.

What isthmus joins Asia and Africa?

A great ship canal has been dug across the isthmus of Suez. Thousands of steamers pass through it every year.

Before the Suez canal was made, the water route from Europe to southeast Asia led round the southern end of Africa. This canal cuts off about one half the distance.

What seas are joined by the Suez canal? Does the land near the canal look fertile or barren?



Two Views of the Suez Canal.

Every summer the Nile overflows its banks. The water comes from great lakes near the middle of Africa and from rainfall on the mountains of Abyssinia.

At this time hundreds of muddy streams flow down the steep slopes, and swell the branches of the Nile. The river rushes and foams over the rough places in its bed, and the muddy water rises higher and higher.

In its lower part the Nile flows through a long valley that is only a few miles wide. The valley is shut in between high cliffs. A vast desert stretches away beyond the cliffs, on both sides.



+ 81. The River Nile.

Where does the Nile river rise? In what direction does its basin slope? Into what sea does the river flow?



Day after day the river creeps farther from its banks. Wider and wider flows the stream. It covers the fields, and looks like a vast lake.

At length the river begins to grow smaller. Weeks pass, and now it flows again in its narrow bed.

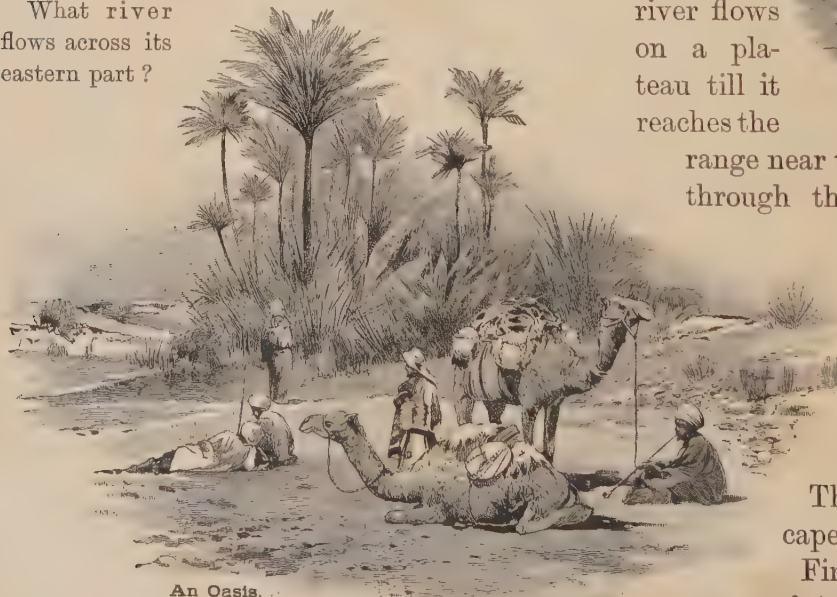
The water has left a thin coating of soil on the banks. The land is ready for seeds, and the long valley will soon be covered with grain. There will be food for the next dry season.

Thus the high slopes supply soil for plants, and it is carried down by the great river Nile, just as it is by tiny rills and brooks.

82. Oasis in the Desert of Sahara.

What have you read about the great desert?

What river flows across its eastern part?



An Oasis.

What sea lies east of the desert? What ocean is on the west?

In some parts of the great desert there are springs of fresh water. After days of hot and dusty travel, how glad the thirsty people and camels are to reach a spring! Here they find rest.



Low and High Nile.

Villages grow up near these springs. Date trees are planted, and soon bear clusters of sweet fruit.

Dates are the chief food of many people who live in hot deserts. Some of the fruit is pounded and pressed into cakes. Camels and horses are sometimes fed on dates.

A fertile spot in a desert is called an *oasis*. The vast barren tract in the north of Africa is the desert of Sahara.

83. Kongo Basin.

It is thought that the basin of the Kongo is about equal in area to that of the Mississippi. The Kongo river flows on a plateau till it reaches the



Cape Town.

range near the west coast. There it rushes through the mountains, and flows into the low plains that lie along the shore.

Vessels cannot sail very far up the Kongo. For this reason there is very little trading done with the negroes who live in the Kongo basin.

The world ridge ends near the cape of Good Hope.

Find Cape Town on the colored map of Africa.

AUSTRALIA.

84. Surface of Australia.

Australia is the smallest of the grand divisions. Its area is equal to about one third that of North America.

The largest river basin in Australia is that of the Murray. It is thought to be nearly one half as large as the basin of the Mississippi.

Where does the Murray river rise? In what direction does its basin slope?

A group of large islands, called New Zealand, lies southeast of Australia.



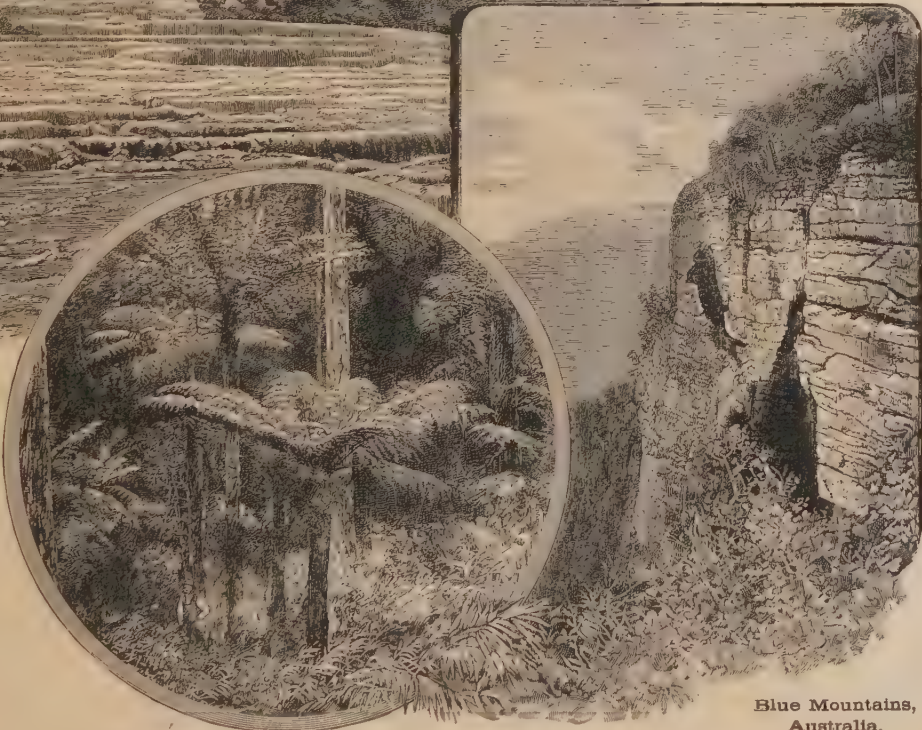
Hot Springs,

New Zealand.

Ranges of mountains lie along the coast, except on the south. Broad plains cover a large part of middle Australia. In many places these plains are dry and sandy.

None of the ranges in Australia are very high. The main range lies along the shore of the Pacific ocean. This range is highest near its southern end.

The mountains along the north and west coasts are in low and broken ranges. In places they are but little more than hills.



Tree Ferns.

Blue Mountains,
Australia.

Many strange animals are found in Australia. Among these is the *kangaroo*. There is a picture of this animal on page 85.

See how large its hind legs are! These strong legs are used in making long leaps.

The black people of Australia eat the flesh of the kangaroo. Many of the skins are sent to our country to be made into shoes.



RELIEF MAP OF AUSTRALIA.

85. Map Studies.

In what direction from Asia is Australia? In what direction is it from Africa? From North America?

On which side of the equator is Australia? On which side of the world ridge is it? What bodies of water surround this grand division?

Describe the surface of Australia.

What large island is north of Australia?

How does this grand division compare in area with South America?



PEOPLE.

86. The Kongo Boy.

This tall hut is the home of little Tibbu. It is near the great river Kongo. Find this river on the map, page 51.



Carrying Ivory to the Coast.

Tibbu's face is black and his hair is woolly. All the girls and boys with whom he plays are of the same color, and have the same kind of hair.

To-day Tibbu must drive the

baboons away from the cornfield, and so he sets out early with his little bow and arrows. He will not be lonely, for he will make a play-hut, just like the one in which he sleeps.

Shall we watch him make the hut? First he breaks off many strong reeds, and sets them in a circle in the ground. Then he ties others together to form the roof. He has no string, but he uses long grasses in its place.

Now he ties bunches of grass all over the reeds, and his hut is done. He has left a place for a doorway, but there are no windows. He needs no chimney, for the fire is built outdoors.

What will Tibbu put in his hut? He is making a pretty mat of grass for a bed. Now he is shaping little dishes in clay. He will bake the clay in a fire, and it will become very hard.

Come, Tibbu, it is time to go home. The sun is low in the sky, and the lions and elephants will soon come down to the river to drink. Take your bow and arrows, and run very fast.

What has Tibbu's sister been doing to-day? In the morning she pounded corn between two stones, and made meal for porridge. Then she helped her mother make cloth.

You could never guess how they made the cloth. They soaked long strips of bark in water, and then pounded them till they were soft. When the bark was dry, they gave it to the father to make into clothes.

Would you like to know what these black children eat?

Supper is ready and here are eggs, fresh fish and corn porridge. When they wish sweet food, they eat sugar cane or bananas.

Everybody goes to bed at dark, for there are no lamps in the village. Isn't this a queer place? There are no books, nor schools, and Tibbu never saw a picture. If you should show him the picture of a lion, he would run away.



Baboon.

The Negro children are very fond of music. They keep time well, and often make sounds like birds and running brooks. They have many games, also, and like to dance and play ball.

Many Negroes have been taken from their homes in Africa, and sold as slaves. In our own land there are millions of black people, but they all are free.

dishes made of baked clay, spoons and pans of tortoise shell, and skins filled with milk. For weapons there are clubs, bows and arrows.

Among the Hottentots women do all the hard work about home. They help also to tend the cattle and sheep.

The dress of these people is very simple. It



Kaffir Girl and Baby.

Kaffir Huts.

Many tribes of people, called Kaffirs, live in the southern part of Africa. Their color

consists of the skin of some animal, wrapped about the body. Chiefs wear the skins of wild animals, but the common people wear only sheepskins.

The Hottentots live in southern Africa. They often move from place to place in search of grass for their cattle and sheep. This is one reason why they dwell in tents.

varies from red-brown to black, but they all belong to the black race.

The Kaffirs make garden tools and weapons of copper and iron. They are a brave people, and have fought hard to prevent the white men from taking their lands.

The Kaffirs have herds of cattle, and they raise large crops of corn. Milk and corn are their chief articles of food.

Let us look into this Hottentot hut. Here are

Many white people have now settled in southern Africa. These have taught the tribes near them how to make better homes and to use better weapons. Other tribes still live in their wild state.

Does Tibbu live in a warm land or in a cold one?

Name some of the plants that grow in the Kongo basin.

Name some of the animals that are found there.

Describe the hut which Tibbu made.

Can you tell what the Kaffir huts are made of?

Tell how the Hottentot hut is made.

87. Japan and its People.

To-day we will visit the homes of the little yellow people who live on the islands east of Asia.

The girls and boys of Japan have round faces, bright black eyes and pearly teeth. They often have ruddy cheeks, though their skin is brownish yellow.

It will puzzle you at first to know which are boys, for they dress nearly like girls. Look closely and you will see that the boys' heads are shaved almost bare, while the girls' hair is twisted into all sorts of odd shapes.

What large sleeves! Let us look inside one of them. It is used as a pocket, and here are dolls, tops, small kites and many other toys. How would you like to wear a pair of their shoes? They are simply wooden soles tied on with strings. These shoes are not worn in the house, but are slipped off at the door.

The fathers and mothers of Japan do a great deal to make the children happy. You should be there on the day which is set apart for the "feast of the dolls."

Every girl has a set of dolls. Perhaps her mother used some of them years ago, but they are very pretty. Here is one that looks like the Mikado, or ruler of Japan. This one looks like his wife, and there are many other dolls like the nobles and ladies of high rank.

Each set of dolls has a full outfit for house-keeping. Here are tiny wooden pillows, soft mats and tea sets. On this happy day the whole land is alive with dolls.

Then there is the "flag day" for boys. On this day every boy plays with a set of dolls dressed like soldiers. Here are armies of dolls, with flags, guns, swords, cannon and pretty uniforms. At this time the boys hear many

stories about the great warriors of their land.

The streets are lined with shops in which toys are sold. Here is a man on a street corner, shaping animals out of

rice paste. The boys and girls crowd around and call out the names, as soon as they guess what he is making. They know the monkey, wolf, bear and many other animals that are found in Japan, but they do not know the sheep.

This man has an oven which he rents to boys and girls. He gives them batter, and they cook and eat their own little cakes. If you do not like battercakes, he will sell you a cake that is covered with seaweed and fish.

Have you found out what the girls in the picture have on their backs? They wish to play, but there are little babies at home who must be cared for. The girls tie the babies upon their backs, and

are soon playing just as hard as the other children.

Shall we enter one of the houses? It is made of bamboo, and has very wide eaves. See the paper! paper windows, paper doors, paper fans, lanterns, hats, cups, cloaks, napkins and many other things.



Scenes in Japan.

Isn't this a queer bed? Would you like to crawl into one of the wadded quilts, and rest your



A Japanese Village.

head upon the wooden pillow? This girl will soon wake and drink a cup of tea. Can you see the pretty tea set?

There are no chairs in the house. The Japanese sit on mats of wadded cloth or of straw. Sit on a mat, and your little friends will bring you a lunch. There is no table, but the boiled rice and steaming tea will be served on a dainty tray that stands on short legs. In some houses you would see meat, fish, beans and a grain called millet.

It would amuse you to see the people of Japan eat rice. Two slender chopsticks of wood or of ivory



Street Scene in China.

take the place of a spoon or a fork. You would find it hard to get the rice to your mouth, but see the skill of the little yellow people.



A Chinese Village.

Peep into this workshop. Here is a man who is making beautiful vases of clay. Another is carving pretty figures in ivory. A third is spreading fine varnish over wood. Near by there is a room in which soft silk is being woven into costly cloth.

Now let us leave the city and take a trip into the country. Climb into this light cart and away we will go. There are ponies in Japan, but most people prefer to travel in the way shown in the picture on page 57.

What is this tall grass with feathery tops and long sharp leaves? It looks like corn but it is many times as tall. This is bamboo, of which many of the houses are made.

We know what grows on the flat land, for we have seen pictures of fields of rice in our own country. But what is this shrub with white flowers and green leaves? Oh, yes, it is tea, like that we saw on the plains of China.

Here is a puzzle! What are these little white and yellow rolls? They look like birds' eggs, but are soft and silky.



Rain Coats.

Have you ever seen a spider spin its web?

These soft rolls were spun by silkworms. They made the fine thread, and then wound themselves in these glossy prisons. It took about three days to wind each silken case, or *cocoon*, and if the thread were unwound it would reach more than two miles. Now you know where the people get the silk with which they make thread and cloth.

Some of the sports of the girls and boys of Japan are like your own. They spin tops, walk on stilts, fly kites and sometimes roll snowballs.

Most of the Japanese children are

always clean. They bathe in tubs of very hot water, just before going to sleep in thick quilts that are laid on the floor. They often have two or three baths a day.

The people of Japan are eager to learn, and they have very good schools.

They build great temples in the midst of beautiful gardens, for they are very fond of flowers.

Shall we follow the girls and boys to one of the temples on a holiday or festival day? They leave their little shoes or clogs at the door, enter the temple and stand clapping their hands softly. This is the way they offer their childish prayers. Then they go out and play in the gardens.

Before we return home let us spend a few days in China.

As we enter one of the great rivers of China we see many houses built on boats. On the decks there are small gardens, and also coops for chickens.

The babies on these boats are tied at the ends of long cords, and the little girls and boys have light gourds or pieces of hollow bamboo tied upon their shoulders. The bamboo keeps them from sinking, when they fall into the water.

The people of China are yellow and their eyes are set aslant. Some day we shall learn more about the house boats and the large cities of this land.

Japan is part of the continent of Asia. What ocean is east of Japan? *See colored map of Asia.*

Tell all you can about the clothing of the people of Japan.

What would you see in a Japanese house, that you cannot see in your own home?

Name some animals that are found in Japan. Name some plants that grow there.

What articles are made in the workshops of Japan?

Name some of the sports of Japanese girls and boys.

88. Malay or Brown People.

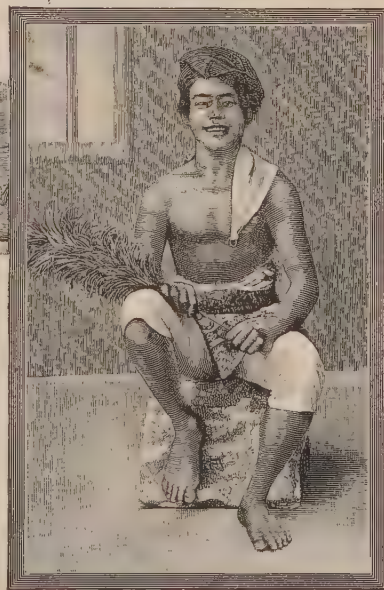
Perhaps you think that this is a little negro girl, but she is not. Her skin is light brown, and her hair is long and straight. Can you tell why her eyes



A Malay Girl.



A Malay Home.



A Malay Boy.

do not look like your own?

This is the brother of the little girl. Do you not think that his eyes are full of fun?

These little people live on the island of Java, southeast of Asia. Java is a land of fruit and flowers. It is so beautiful that people often call it the "Pearl of the East." Would you like to visit the home of the brown people?

Here it is, — a pretty hut in a shady grove. The hut is made of bamboo.

Our little brown girl helps her mother keep this hut very neat and tidy. She stuffs pillows with soft white down that grows on a tree near by, and she weaves dried grasses into the mats that are used as beds. Then she covers them with pretty cloth.

Her brother pounds the yellow husks off the rice which they will have for breakfast, and he gathers a few cocoanuts and a bunch of ripe bananas. The fruit is eaten raw, but the mother cooks the rice till it is soft and white. Their only table is a mat, and all sit around it on the ground while eating.

Now they are ready for the day's work. The coffee berries are turning dark red, and the father says it is time to pick them. This will be the work of the mother and the girl, for the father and the boy must let water in over the rice fields.

A coffee tree is a pretty sight. It has rich gray bark, large green leaves and white waxy blossoms. In a few months the little seed pods of the blossoms grow into clusters of red or purple berries that look like cherries. Our little girl must be very careful, for while the berries are ripening other blossoms are growing on the ends of the new branches. These blossoms must not be broken off.

The berries are spread out to dry, then the pulp is pounded or rolled off, and out come the coffee seeds ready for market.

Java is very near the equator, and by ten o'clock the sun is so hot that work in the fields is stopped. Now the brown people sit in the shade of palm trees and weave baskets. When

thirsty they break open cocoanuts and drink the cool milk that is inside.

The father says that snares must be set, for bats have been nibbling the corn and the tender shoots of the palms. Have you ever seen little bats that look like mice with wings? Some of the bats of Java are very large and are called *flying foxes*. During the day they hang in dark clusters in trees, but in the evening they flit about in search of food. This evening the snares and nets will be set to catch some of them.

By four o'clock the air is cooler, and the father goes back to the rice field. Now the little girl will help her mother spin cotton into yarn. Some day they will weave the yarn into cloth, and make new clothes for the whole family.

What is the little brown boy doing? There he goes tripping across the rice fields towards the south shore. He knows of a cave in which many swallows build their nests, plastering them upon rocks. These nests are made of a glue-like substance, and a few of them will make soup for supper. Many of these nests are sold to people of other lands.

Nearly all the girls and boys of Java dress like these in the pictures. While working in the sun the boys often wear large hats made of very thin strips of bamboo.

The brown people are called *Malays*. Most of them live on the large group of islands south-east of Asia. In some places the Malays have built cities, but the white man rules over most of the brown race. Many of the Malays are savages, like the people in the black tribes of Africa.



A Java Girl.

Find Java on the colored map of Australia. In what direction is Java from Japan?

What new sights could a Javanese girl see in Japan? What could she see in Tibbu's home?

What do the people of Java eat? Of what are their clothes made?



Brown People of Fiji Islands.

89+ A Lapland Home.

Does this family live in a warm land or in a cold one? Can you prove your answer by the picture?

Which has the warmest coat, the deer, the dog or the little boy peeping through the door?

yellow people. Your sister, who is holding a dipper, has dark hair, but yours is light.

Let us glance into the hut. What is in this bundle that hangs from the roof? It is a hammock made of the warm skin of a deer, and in it swings a pretty baby girl with eyes as bright and cheeks as soft as your own.



A Lapland Home.

Isn't this a warm hut? See the thick sods upon it. Do you think that rain can leak through the roof? See how the sods are placed. What holds them up?

Why is the hut so dark? Can you see any chimney?

Come out, little boy, where we can see you. What large round eyes you have, and what a tiny flat nose! Your eyes are as straight as ours, but your face tells us that you are one of the little

Would you like to know where these people live?

Their home is in the north of Europe, near the Arctic shore. They are called *Lapps* and they live in *Lapland*. Can you find Lapland on the colored map of Europe?

Ah! here is a snowstorm. Now we know why the Lapps wear boots with high tops bound tightly round their legs. Come! Let us hurry into the hut.

See the long strips of smoked meat hanging on the walls. Here are dishes of sweet milk also, and cakes of new cheese. Do you wonder that the Lapps are kind to their deer? Where do you think all this food came from?

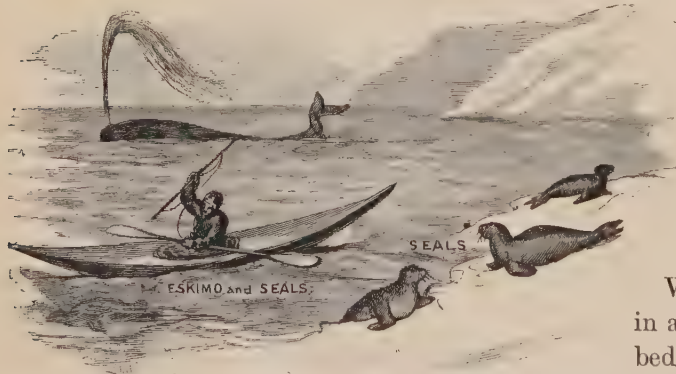


Hammerfest.

Let us look at the boots and at this great hairy coat. Can you tell what they are made of? Some of the coats are made of cloth. At night the children sleep side by side between large warm deerskins.

Of course you wish to know what the reindeer feeds on. In summer it bites off tender shoots of trees and bushes, but in winter it paws away the snow to find a little gray plant, called *reindeer moss*.

It has stopped snowing. Now for a ride! Harness a deer to a sled and away we will fly



over the snow. How fast we go! Will the fleet deer never grow weary? His master tells us that he has driven him a hundred miles in one day.

Would you like to live in Lapland? Do not think that there is snow on the ground all the

time. As early as May the fields are dotted with pretty flowers, the birds sing sweetly, and later the bushes and vines are loaded with berries.

Perhaps you would like to live with the Lapps who catch salmon and trout in lakes and rivers, or with those who wander with tents from place to place, in search of good pastures for their herds of deer. You would find that the Lapps are very kind.

Hammerfest is a town that the Lapps often visit. It is the farthest north of all the towns of Europe.

Where do the Lapps live?

What are the uses of the reindeer?

Can you tell some of the sights that Tibbu often sees, but that the Lapland boys never see?

What would the Japanese boys miss if they went to Lapland to live?

Why does Tibbu not wear clothes like those which the Lapland boys wear?

If you were to go into a Lapland hut, what should you expect to see?

90. The Eskimo Boy.¹

If we knew the words that little Chuglu uses, he could tell us a wonderful story about the land of snow and ice in the far north.

Here is a picture of the hut in which he lives. It is built of stones, with turf thrown upon it to keep out the biting wind. The hut is now covered with snow. During the summer Chuglu lives in a tent made of deerskins.

The Eskimos are found along the north coast of North America, and on the islands near by. They live also along the southwest shores of Greenland. Find Greenland on the map of North America.

When Chuglu was a baby his mother kept him in a bag of feathers. That was his cradle and his bed. Day after day he lay in the smoky hut, till he was old enough to walk, and then his mother made him a very pretty suit of sealskin clothes.

¹ Chuglu was one of the Eskimos at the World's Fair in Chicago. The baby, Columbia, was born on the World's Fair grounds.

On his jacket she sewed a fur hood that he could draw over his head on very cold days.

The mother has a large hood on the back of her own jacket, and many a cozy nap has Chuglu taken in this hood, before he could walk.

At length Chuglu is old enough to go out and see his father hunt seals. Bring out the sled and harness the dogs! *Snap!* goes the long whip, and away they glide over the snow. The father knows

whale. He paddles his canoe, or *kayak*, very swiftly, and throws his harpoon with great skill.

The kayak is long and narrow. It is covered with sealskins. The skins are sewed over the top of the canoe, making it water-tight in all parts. Eskimos are so skillful that when a kayak upsets they can right it again in the water.

Under the skin of the whale there is a thick layer of fat, or *blubber*, which keeps the icy water



Chuglu.

where the seals crawl out of the icy water to bask in the sun.

Now they are near the place. Chuglu

from chilling the muscles. The Eskimo uses this blubber to warm and light his hut.

Let us return to the hut. Stoop low, and creep on your hands and knees. Now we are inside. Can this be the home of little Chuglu? How does he breathe in such a close and smoky place?

Look at the lamp. It is a hollow stone, with moss for a wick. Where did the oil come from? The lamp smokes, but it keeps the hut warm.

Along one side of the room there is a long bench. During the day it is used as a seat, but at night it forms the family bed.

is left with the dogs, while his father creeps up behind a huge block of ice. Yes, there are the seals! A rush, a blow, and one unlucky creature is held on the end of the sharp spear.

It seems very cruel, but Chuglu must have food, and now he can eat the flesh of the seal. His mother will also make a new jacket of soft fur for him.

It is great sport for the Eskimo to chase a

Columbia.

Look at Chuglu as he takes off his jacket and boots. He wears a shirt of birdskin, and stockings of dogskin.



Inside an Eskimo Hut.

Now we can see his face clearly. The bright black eyes are aslant, the hair is coarse and black, and the skin is yellowish brown. Perhaps Chuglu belongs to the same great family as do the children of Japan, China, Lapland and Java.

Dinner is ready. Will you dine with Chuglu? He will have a feast to-day, for his mother has given him a large piece of blubber. His father is eating a slice of raw frozen flesh. Now he helps himself to a piece that has been boiled.

In this cold region no grain grows, and so these people have no bread. There is no fresh milk nor cheese such as we saw in the Lapland home, for Chuglu's father has no tame deer.

Some days they eat fish and sea fowl, and when Chuglu's father kills a great white bear, its flesh feeds them for a long time.

Eskimos often move from place to place, to find seals and fish. Sometimes they hunt far out over the frozen sea. When they settle in a place for a short time only, they make huts out of blocks of snow, with ice for windows.

White people often visit the cold seas of the north, in search of seals and whales. These people give or sell to the Eskimos, knives, needles, cloth and other articles.

In making clothes the Eskimo women are very skillful. They cut the sealskins to fit well, and then sew them neatly together. Do you not think that Chuglu has on a pretty jacket?

In autumn the days at the far north are very short. Then the Eskimos hunt all the time while it is light. They store up food for the long winter nights that are near at hand. Some Eskimos live in places where the longest night lasts many weeks. In summer there is a day that is just as long.

Would you not like to watch the sun during the long day? Every noon it is in the south, and at midnight it is in the north, but it does not dip below the horizon. By and by you will learn the reason why.

Can you find out how Chuglu's sledge is made?

Where do the Eskimos live?

Describe an Eskimo hut. What do Eskimos eat?

What strange sights would a Lapland boy see, if he were to visit Chuglu's home?

What objects in your home would seem strange to Eskimo children?

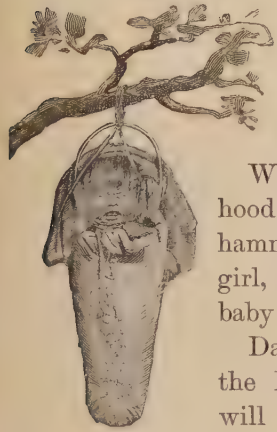


An Arctic Scene.

Which people wear the best clothing, those of Java, of Japan, of Lapland or of the northern coast of North America? Give a reason for your answer.

91. Children of the Indian Tribes.

Can you tell what is in the cradle that hangs on the tree? It is a tiny baby with round black eyes and red-brown skin.



This cradle is made of a piece of board, wrapped in cloth. There are pretty beads on the cloth.

Which do you like best, the hood in which Chuglu slept, the hammock of the little Lapland girl, or the cradle of the Indian baby?

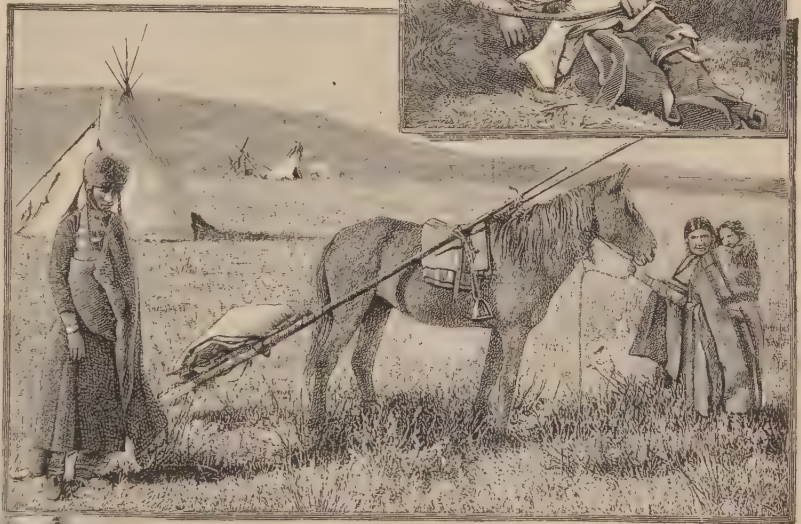
Day after day the Indian baby will swing from the branch of a tree. He will also take long journeys on his mother's back.

When those chubby fingers are strong enough to use a bow and arrows, the little Indian boy will

Some tribes of Indians live in good houses made of wood, brick or stone. These have large herds of cattle and fields of grain.

In some places many families live in one large house or *pueblo*. It is made of stone or of brick dried in the sun. The walls are thick and the floors bare.

Each of the large buildings is called a *pueblo*, and the same name is given to the



Indians and their Camps.

whole village. Some of the tribes that live in pueblos have large fruit groves and grainfields.

Let us visit an Indian camp in the evening.

Here is a drum made by stretching a skin over a hollow log. The beating of this drum calls the tribe to an evening dance round the camp fire. At first the dancers move slowly. Then the drum beats faster and the dance becomes more rapid, till it breaks into fierce leaping, and the Indians yell as if they were fighting a battle.

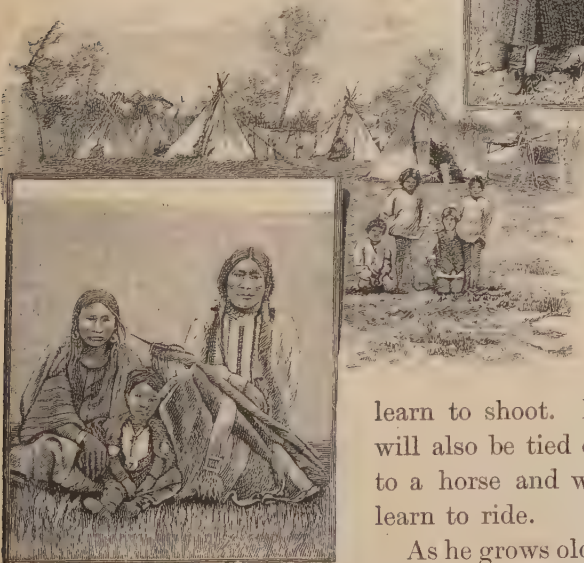
The children look on with delight. Some day they will go through the same kind of dance. This evening they listen to stories of the brave deeds of their fathers, and then go to their tents to dream of the time when they will be warriors.

learn to shoot. He will also be tied on to a horse and will learn to ride.

As he grows older

he will run races, wrestle, swim, play ball, hunt and fish.

Can you tell what holds the tents up? What do you think the tents are made of?



The Indians are very skillful in making bows and arrows, but their chief weapon now is the rifle.

The red-brown man taught the white man how to make canoes of birch bark, and shoes of soft deerskin. The dusky savage also showed the paleface how to make corn grow in a forest. The trees were first killed by cutting a ring of bark from their trunks, or by burning off the bark. The hot sun could then ripen the corn, as there were no leaves to shade it.

Is there nothing to say about the Indian girls?

While the boys are wrestling or hunting, the girls must stay at home and work. They must learn to cook, to hoe in the garden, to skin the animals that have been killed, and to take down and put up the tents when moving camp. They must also help to carry all the tents and kettles from place to place.

The little Indian girl finds some time for play. She is very fond of dolls. What kind of dresses do you think she makes for her dolls? What kind of playhouse does she like best?

Indians are found in nearly all parts of South America, and in the western part of North America. Only a few tribes live east of the Mississippi river.

The number of Indians in the United States is small. There are about as many here now as there were when the white men first settled in America.

Where are Indians found? Can you draw an Indian's tent?

What has the Indian taught the white man?

If an Indian girl were to visit Japan, what strange sights would she see? What could an Indian girl teach a Lapland girl?

92. The Land of the Arabs.

We start to-day for a land that lies far to the southeast of the isthmus of Suez. The first part of our trip is to New York. Can you show on the map the shortest route by water from New York to the isthmus of Suez?

It will take about two weeks to cross the ocean and the long Mediterranean sea.

Now we are passing the great rock of Gibraltar near the strait that opens into this long sea. What grand division is this on the south? What one is on the north?

Here we are at the isthmus. A small boat is waiting to take us from the steamer to the land.

We are just in time, — a caravan starts to-day for the very place we wish to visit.

We must travel on the backs of camels, as our route winds across a wide desert. Here is a camel kneeling for you. Now you are on,—hold fast while it rises.



Caravan.

Let us wait a few minutes near the great Suez canal.¹ Here is a long line of steamships ready to pass through. Would you like to look inside these ships and see what they carry? This one is from southeast Asia. It is loaded with tea, cotton, silk and grain. This cargo will be carried to the British Isles.

The steamer from which we landed is bound to Australia. Below its decks there are thousands of yards of cloth and many kinds of machines and tools. This ship will bring back a cargo of wool.

Now the caravan is ready to start. We turn our faces towards the southeast, and soon lose sight of the little city by the canal. How dry and sandy the land is, and how hot the air!

¹ On page 51 there are two views of this canal.

We camp to-night near this well of cool water. In the early morning we are off again, and at about ten o'clock we reach another well. Here we rest till the sun is low.



Arab Family.

Days pass, and we are still in the midst of the burning sands. Now the wells are far apart, and we must carry water in bags made of camel's skin.

It is noon, and we have halted for the day. How the sun beats down!

See the dust whirling towards us! What is going to happen? The camels are burying their noses in the sand.

We must be quick, or a hot whirlwind will reach us before we are ready for it. Place a piece of cloth on the sand, and press your face hard down into it. While the hot wind is passing, you must breathe the air that is in the sand.

Now the wind is here. We are stifling! It seems as if hot coals were burning our bodies. The whirling sand almost buries us. Five minutes pass. They seem like hours. Now the camels are raising their heads, and the storm is over. This is the *simoon*, or stifling wind of the desert of Arabia. Where is this desert?

As we travel over the hot sand, clouds of locusts fly about us. They look like grasshoppers. Bees and wasps swarm upon the rocks that jut out of the sand. Countless scorpions, with poison stings, creep over the dry surface.

The plant life is scanty. The camels find a few tufts of coarse grass, sharp thistles and cactus plants.

Our route now leads over higher land. Here and there we see tents pitched under spreading date palms. In the distance low mountains rise on the plain. To-morrow our journey will end.

Here we are at last in a land of flowers! It looks like a vast island-garden in a sea of sand. Mile after mile of groves and grainfields stretches away to the south. This is the land of the Arabs.

Would you like to go to school with these Arab boys? They are reading the Koran, which is their Bible. Listen to the strange words which tell them not to press wine from grapes. In all this fair land no wine is made from grapes, but the fruit is eaten.

The Arab boys are dark, but they belong to the white race. Have you not seen boys that look like these?

School is over for the day, and our little friends will show us their homes. First we must see the horses.

How the Arab loves his horse! He oils its hoofs so that the hot sand will not crack them. He chooses for it the finest grass and the purest water, and often feeds it on dates and



Arab School.

barley. He places no cruel bit in its mouth, but guides the noble animal by pressing his knees against its sides. The Arabs have the most beautiful horses on the earth.

Next we will look at the camels. These animals are more useful than horses to the Arabs. One kind of camel is used for speed, and another for carrying heavy loads. The former will run one hundred miles a day, and in the cool part of the year will sometimes travel eight days without drinking.

Camels are to the Arabs what reindeer are to the Lapps. For supper to-day we shall drink the milk of the camel, and eat its boiled flesh. We shall have fresh butter and cheese, but these are made of goat's milk.

The hair of the camel is soft and fine. It is used in making cloth. The tents of the Arab tribes that live in the desert are made of this kind of cloth. We need not stop to look at the sheep and cattle, for we can see many like them in our own land.

Let us go into the gardens. Here are bright flowers, and the scent of sweet herbs fills the air. The stifling wind never reaches this fertile region.



Studying the Koran.

As far as the eye can reach, beautiful date trees wave in the valleys. For breakfast to-morrow we shall have fresh dates and also sweet cakes made of the same kind of fruit. The date in

Arabia takes the place of wheat as used in our own land, of rice in Japan and of fruit in Java.

Would you like to look into one of the wells? It is only a few feet in depth, and the sides are built of stone. In the desert the wells are much deeper. All the gardens of this land are watered from wells, for the seasons are often very dry.

Coffee is the chief drink of the Arabs. The coffee berries grow on the hilly lands, near the strait that forms the outlet of the Red sea.

Some Arabs live in good houses of stone or of wood. The people are very kind and polite, and we are sorry to leave the dusky white boys, but we must begin our long journey back to the dearest land of all, — America.

What bodies of water should you have to cross in going from your home to Arabia?

Of what grand division is Arabia a part?

In deserts, why are camels more useful than horses?

Name some animals that are found in Arabia?



Inside of an Arab House.

Of what use are camels to Arabs?

What do Arabs eat? What berries that grow in Arabia are used to flavor drink?

Where else does coffee grow?

93. Children of the Lowlands.

To-day we will visit Holland, the land of canals.¹ It is part of the low plain through which the river Rhine flows to the sea.

This land is crossed by a network of canals and ditches. Its wide meadows look as level as a

fathers find work. When they are old enough the boys have boats of their own.

Let us take a trip on one of the house boats.

See the long rows of windmills! They are pumping water from the low fields into ditches. When the corn is ripe the windmills will help grind it to meal.

What are these men doing? They are cutting strips of soft earth, and placing them where they will dry. These strips are filled with roots and grass, and will be sold for fuel. They are burned by all except the rich people.

Here is a band of haymakers. See the girls



Scenes in Holland.

floor. No fences are needed, for water separates the fields.

Boats with white sails seem to skim over the meadows, but of course they are in the canals. In handling the boats, girls are often more skillful than boys.

Some of the children in Holland are born on boats, and spend their lives floating about the canals. They go from place to place where their

working in the field. Yes, the mothers and sisters in Holland often make hay, dig potatoes, sow grain, hoe corn and do other kinds of hard work. They even help to draw boats along the canals.

What queer shoes the horses wear in the fields! They are small boards tied under the hoofs. Why do the horses wear them?

¹ Holland is also called *The Netherlands*, which means *lowlands*.

A large part of this low land is very soft and boggy. It seems like a wet sponge. The ground trembles under even the little children at play. If it were not for wide shoes, the horses would sink deep into the soil.

What a land this is for the barefoot girls and boys! They can splash in the puddles, wade in



Scene in the Alps.

the ditches, sail boats on the canals and catch fish nearly everywhere.

You should see the children in winter, when the canals are frozen. How swiftly they skim over the ice! For miles and miles the canals are then alive with skaters!

Poor children use wooden skates, but they have much fun. People go to market on skates. Here is a little girl going to sell a basket of eggs. She will bring back a small red cheese and a loaf of bread about two feet long.

Would you like to wear wooden shoes? Of course you would take them off at the door, and not wear them in the house. Do you not think that our leather shoes are much better than wooden ones?

Here we are at a bridge. Our house boat cannot pass till the bridge is raised. The men who move the bridge swing out to us a little wooden shoe on the end of a pole and line, and we drop into it a small piece of money to pay them for their work.

Now we are near a city. It looks like a forest of masts, trees and steeples. Boats, boats everywhere! The houses are very neat. Perhaps the kitchen is the front room, but what of it?

Would you like to live in Holland?

What large river flows across the plain of Holland?

Where does the Rhine river rise? In what direction is Holland from the Swiss plateau?

What is a house boat? Are the rivers of Holland swift or slow?

What do the people of Holland use for fuel?

Of what use are windmills to the people of Holland?

Of what use are canals?

Name some of the farm products of Holland.

94. Children of the Highlands.

Let us leave the "land of canals," and sail far up the river Rhine. Hans, a Holland boy, will go with us to visit the Swiss boys who live on the plateau near the high Alps.

Here we are in a pretty village, close by the snowy peaks. Wilhelm, a little Swiss boy, comes down the road to meet us.

How strange the place looks to Hans! He has always lived on low land by the sea. Now for the first time he sees great rocky ranges upon which snow lies all the year.

What do you think that Hans misses most? Yes, the quiet canals. In Wilhelm's home no white sails seem to skim across rich meadows. Many of the Swiss streams rush and roar over steep, rocky beds. Hans feels of the water and finds it icy cold. Wilhelm says that it flows from a long glacier.

The Swiss village is all alive to-day. Spring has come, and the flocks must be driven up the mountains to feed.

The men who go with the flocks will be away from home till near the end of summer, and many carts are loaded with food and bedding for them. Hans and Wilhelm are very happy, for they are going on the long trip.

When all are ready they set out with long lines of cattle and sheep. The flocks graze for a few days at the foot of the range then as the snow

melts they climb higher. In the valleys they find the grass green and tender. Here they will graze till the snow drives them down the slope.

Hans and Wilhelm help to tend the flocks, and then they play by the swift streams, or search for wild flowers. Once in a while they catch a glimpse of a nimble *chamois* or an *ibex*, as it leaps from crag to crag far above them.

The chamois looks partly like a deer and partly like a goat. It is very shy, and has keen scent and sight.

In winter this little creature feeds on tender shoots of fir and pine trees. In summer it is found close to the lower edge of the snowcap on the highest peaks.

soon it crashes along, sweeping all before it. Large trees snap and break. Huge rocks whirl down the slope. The earth trembles, and the flying mass gives out an angry roar.

That evening Hans tells a story about the sea breaking through the dykes of Holland, and flooding his father's field. Wilhelm tells about the soft snow that slid down the mountain side last



Remains of a Snowslide.



Wilhelm's Home.

The chamois is noted for its long leaps from rock to rock, over deep chasms. It is very playful, and is often seen sporting about in the light feathery snow.

Often at night the boys lie awake and listen to the ice cracking and groaning, as it winds slowly past their cabin. Wilhelm says that the glacier walks and talks.

One day when the boys are far up the mountain side, they see a great mass of ice and snow slide into the valley. At first it moves slowly, but

winter, and buried the village in which he lives.

Weeks pass, and at length the snow creeps down the mountains, into the high valley where the flocks are grazing. They must at once start for home, or they may be caught in a blinding storm.

It is the middle of September, and the village is dressed for a holiday. To-day the fathers and elder brothers come home with their flocks from the mountains. The girls and boys march out with bells and flags to meet them. They all return shouting and singing.

The day is given over to sports and games. The young men wrestle, run races and shoot. In the evening bonfires are kindled, and many dancers keep time to music. In the midst of the festival a heavy snowstorm begins, showing that winter is at hand. How strange it all seems to little Hans.

What have the girls and boys in the village been doing all summer?

They have helped their mothers mow grass, plait straw into hats, and take care of the cattle that were not driven to the mountains. They have also milked the cows and goats, and have made butter and cheese.

Have you ever seen a churn? In this Swiss village the merry little streams are set at work turning churns. Milk and cheese are leading articles of food. Very little meat is eaten. Many potatoes are raised, and these often take the place of bread. Dried apples and pears are also used for food.

Every year many thousand people visit the Alps to see the snowy peaks, the long glaciers and the mountain lakes. Many young men earn a living by serving as guides to the visitors. One of the pictures on this page shows a party climbing an ice point on a glacier.

sail on the ocean, and of vast level lands, called prairies. Next year he will visit Hans and will see many strange sights along the canals.



An Ice Point.

Now the time has come for Hans to return home. He will remain a few days in the beautiful Swiss cities of Geneva and Bern, to see the great workshops. Here he will watch the people spin silk, and weave cotton and wool into

cloth, but this work will not be new to him. He has seen the same kind of work in the cities of Holland, near his own home.



A Glacier.

Wilhelm has met girls and boys from many lands. He has heard them tell of great ships that

Where is the Swiss highland?
Why are many of the streams of this highland very swift?

Where do glaciers come from?

Describe a Swiss cottage. Can you tell why heavy stones are placed on the roofs of cottages?

What kinds of work can the girls and boys of Switzerland do?

What do the people of Switzerland use for food?

Name six animals that Swiss boys see.

What kinds of goods are made in Swiss cities?

Find Switzerland on the map of Europe. In what direction is it from Holland?



A Swiss Cottage.



95. Homes of the Races.

People live in nearly every land. Of course there are many more people in some places than in others, and we have seen that not all look alike.

Most of the black tribes live south of the desert of Sahara and in Australia.

The "red men," or red-brown tribes, are found in many parts of America.

The people of the brown race make their homes mainly on the islands southeast of Asia.

The yellow people live in the river basins of Asia and Europe sloping to the Pacific and Arctic oceans. They are also found along the Arctic coast of America.

In the Old World the home of the white race is between the lands of the black and the yellow races.

The map will show what parts of America and Australia are now held by white people. Page 87 tells about the people of the land in which *we* live.

96. Homes of the Nations.

A long time ago Europe was the home of many tribes of white people. Some tended their flocks and others tilled the soil.

The tribes often fought for the best lands. Those that lived on wide plains were open to attack from all sides. In some places ranges of mountains and arms of the sea kept the tribes apart.

Here and there a strong tribe would conquer many weak ones, and a single chief would rule over all. Perhaps he would add to his land till it reached to the sea, to a wide river or to a range of mountains.

In these and in other ways, the small tribes grew to large ones, under a few rulers. As years rolled by, the people of each large tribe learned to use the same names for things about them. After a time they began to trade with other tribes, and to learn how they did their work, how they dressed and what they thought.

At length people found out how to print books from type, and then they became much wiser. Now, of course, they have fine schools, beautiful houses and railroads. Thus the tribes have grown to *nations*, each having its own land and its own rulers.

For ages and ages nations have been growing in nearly all lands, but there are still many savage tribes. The home of a nation, or the land in which it lives, is called a *country*. The city or town in which the laws of a nation are made is called the *capital* of the country.

A nation may be a part of one race, or it may be made of people of two or more races.

97. Map Studies.¹

*North America.*²

In what country do you live? What ocean is on the west? What other bodies of water help to bound the United States?

What country is north of the United States? What ocean is north of Canada? What ocean is on the east? On the west? What great bay indents the north coast? What bodies of water lie between Canada and the United States?

What country is south of the United States? What ocean is west of Mexico? What body of water is on the east? What river flows along the northeast border of Mexico?

Where are the West Indies? Name the largest island of this group.

¹ Many teachers may prefer to omit these map studies.

² For answers, study the colored maps of continents.

South America.

What large river basin is almost wholly in Brazil? Which part of Brazil is a low plateau? What ocean is on the east?

Where is Chile? What is its shape? Into what ocean do the streams of Chile flow?

Name the long country east of Chile. What divides the two lands? Name the river system that drains the northern part of Argentina.

Europe.

Where are the British Isles? What sea is on the east? What ocean is on the west? Where is Ireland? Where is Scotland? Where is England?

What country covers the greater part of the lowland of Europe? Name the largest river basin in Russia. What bodies of water touch the shores of Russia?

What country lies north of the Swiss plateau? Upon what seas does Germany border?

Between what countries are the Pyrenees mountains? What bodies of water partly bound Spain? What bodies of water partly bound France? In what country is the greater part of the Rhone basin?

Where is Italy? What is its shape?

What large country is in the middle part of the Danube basin? Name the countries that lie north of Austria-Hungary. On what sea does Austria-Hungary border?

Africa.

Where is Egypt? What large river flows across it? On what seas does Egypt border?

What river system drains the Kongo State?

Asia.

In what country is the Ganges basin? What highland is north of India? What ocean is on the south?

What large country is east of Tibet? In what direction do the great rivers of China flow? What ocean is east of China?

Where is Japan? What vast country covers the northern part of Asia? What oceans border on Siberia? What country is west of Siberia?

Australia.

Where is New South Wales? Where is Victoria?

HEAT, WIND AND RAIN.

98. A Home Lesson for a Hot Day.

Find a place where the sun shines upon sand or upon hard bare ground.

Hold your hand one inch from the sand or the bare ground, then one foot away, and three feet away. At which height is the air warmest?

Find a flat rock. Can you feel heat coming from it?

Place your hand near the sand and then near some water that stands in the sun. Which is warmer, the air above the water or above the sand?

99. How the Air is Heated.

On a clear summer day, how hot the air is over a sandy field, and how cool a breeze from over the sea.

A flat rock in the sunshine may be hot, while green grass close by it feels cold. On very hot days, why do we like to sit in the shade?

The sun warms the surface of the earth, and the earth then warms the air just as a stove does.

Dust and clouds also receive warmth from the sun, and help to warm the air about them. Can you now tell why the air becomes cooler when heavy clouds form between us and the sun?

When the sun is shining, some parts of the earth become warmer than other parts. For this reason, the air in some places

is warmer than it is in others.

Figure I.

100. How the Earth is Heated.

Let us suppose that the straight lines in figure I. are rays coming from the sun to the

earth at noon and also at about nine o'clock in the morning.

Count the slanting rays. Count the vertical or upright ones. Which rays spread out farther over the surface of the earth?

The nearer overhead the sun is, the more thickly its rays reach the earth. In the morning, when the sun is low in the sky, the rays are very slanting, and the earth warms slowly.

Which part of a day is generally the warmest? Why does the earth become cool or cold in the evening?

In summer the sun shines higher in the sky than it does in winter. In the coldest part of the year, the sun's rays are more slanting than they are in summer.

On places near the equator, the sun shines almost straight down every day in the year, and makes a wide *hot belt* round that part of the earth.

As we travel north or south from the hot belt, the sun's rays become more and more slanting, and therefore we reach cooler and cooler parts of the earth. Round the poles there are wide regions of ice and snow.

In figure II., as many rays fall upon B as upon A. Over B the rays are nearly vertical, but over A they strike the surface with greater slant.

Which is the wider space, A or B? Upon which do the rays strike nearer together?

Figure II. shows that while the sun is shining nearly straight down on the hot belt, its rays fall with more slant on other parts of the earth.

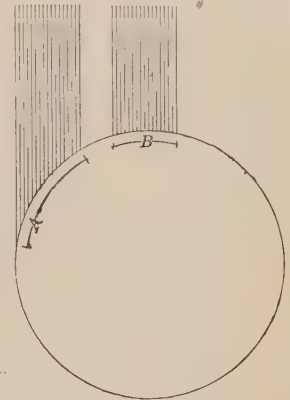
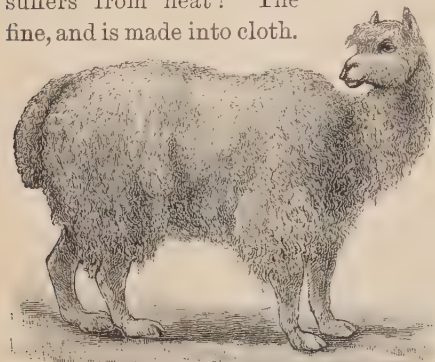


Figure II.

101. High and Low Land.

The alpaca lives near the equator. Look at its long wool. Do you not think that this little animal suffers from heat? The fine, and is made into cloth.



Alpaca.

Look at its long wool. Do you not think that this little animal suffers from heat? The fine, and is made into cloth. Have you ever seen any alpaca cloth?

The alpaca looks like a little camel, but it does not live in a sandy desert. Each toe has a tough sole to help climb

rocky places where the alpaca goes to find grass.

The home of the alpaca is high among the Andes. Even in summer it can see snowy peaks only a little distance above the places where it feeds. Do you think that the alpaca needs its warm coat of wool?

Some mountains near the equator are very cold. The sun often shines straight down on lofty peaks that are covered with snow.

The thin pure air on high plateaus and mountains is colder than the air of the lowlands which are at the same distance as the highlands from the equator.

102. The Seasons.

Which is the coldest part of the year? Which is the hottest part?

What season comes before summer? What one comes before winter?

Can you name three kinds of fruit that ripen in autumn? Three in summer?

In what season do most of the wild flowers blossom?

What can you see on a winter day that you cannot see on a summer day?

What games do you play in winter? What ones in summer? In spring? In autumn?

Which season do you like best?

103. Change of Seasons.

Once a year the earth goes round the sun. The path of the earth is almost a circle, with the sun near its center. For six months the vertical rays of the sun fall north of the equator. During the other half of the year they fall south of that line.

While the sun is north of the equator we have spring and summer. While it is south of the equator we have autumn and winter.

When it is winter on one side of the equator it is summer on the other side

104.

A Sign of Spring.

One sign of spring is the coming of the storks. They visit nearly all parts of Europe, going as far north even as Lapland.

The storks make their nests of sticks on the tops of buildings and in tall trees. There they lay their large white eggs. These birds are always

welcome, as they are thought to bring good luck.

When the cold season begins in Europe, the storks fly south. They cross the great sea and visit Africa.



Storks of Strassburg.



A Snowstorm.



Some of the storks wade along the shores of the Nile, searching for frogs, snakes and fish. Others feed in the swamps and marshes of the lake region, where the Nile rises. Still others fly to the far-off southern part of Africa, where summer reigns while it is winter in Europe.

What does this lesson tell about the seasons north and south of the equator?

Strassburg is in the upper part of the valley of the Rhine.

1056 Belts of Heat.¹

What river basins does the equator cross?

What rivers flow into the Arctic ocean? Are their basins cold or warm?

What river basins are about halfway between the equator and the poles?

Which part of the earth is in the hot belt? What river basins are in this belt?

The hot belt has no winter. Here some parts of the year are cooler than others, and some months are rainy while others are dry.

What river basins are in the warm belts?

The warm belts are a little cooler than the hot belt. They have long summers and short winters. Snow is seldom seen in the warm belts, except on mountains, but there are many frosty nights in winter.

What river basins are in the cool belts?

The cool belts have cold winters and hot summers. The air of spring and autumn is cool. The land is white with snow during a large part of winter and early spring.

There is but little land in the southern cool belt.

The cold belt of the north has very long winters and short summers. Along the Arctic coast in this belt the soil is deeply frozen the year round. The hot sun of summer thaws it only a few inches in depth.

Even in summer a wide field of ice and snow spreads round each pole.

¹ See supplement for map of zones of light.

106. The Trade Winds.

In nearly all parts of the hot belt, and for a short distance beyond it, brisk winds blow in a westerly direction. These are called *trade winds*.

The trade winds blow over about one half the surface of the earth. As they sweep over the sea they gather up a vast amount of moisture and give it to the river basins in their path.

What great river basins are in the hot belt?



A Chinese Junk on the Pacific.

In some places over the land, the trade winds turn from their westerly course. Over the sea these winds often blow for weeks without changing either their speed or their direction.

The winds that bear moisture to the river basins of the warm and cool belts of the north blow mainly from the southwest and west.

On the cover of this book there is a picture of the fleet of Columbus. The trade winds filled the sails of this fleet, during the famous voyage to America, in 1492.

† 107. The Gulf Stream.

There are many streams of salt water in the sea. These are called *ocean currents*. Some are warm and others are cold.

Wide ocean currents flow westward under the trade winds. A branch of one of these currents winds among and around the West Indies, and then flows northeast across the Atlantic ocean. After passing Cuba this current is called the *Gulf stream*.

Between Cuba and Florida this stream is about forty miles wide and half a mile deep. It flows about five miles an hour. The water is dark blue and quite warm.

As the Gulf stream crosses the Atlantic, it widens and flows more slowly. West of Europe this warm stream divides. One part flows along the northwest shore of Europe while the other part turns towards Africa.

The Gulf stream warms the winds that sweep over it, and these winds bear much warmth to western Europe. They give mild weather all the year to the British Isles. By and by we shall learn about other great currents in the sea.

The strange vessel in the picture is called a *junk*. It is made of bamboo, — a large grass-like plant that grows in southeast Asia.

Several years ago a junk was wrecked off the coast of China. Its masts were broken off and its sails were blown away.

For weeks and weeks the hull drifted in a great ocean current. At length it was found upon the rocky shore of Alaska, thousands of miles from the place where it lost its masts.

The junk drifted in the *Japan current*. In what direction does this current flow?



PLANTS.

109. Where Plants Grow.

Can you name a plant that grows in a swamp?

Can you name one that grows in a sandy place?

What flowers have you seen growing in the woods?

Of what use is the tuft on the thistle seed?

Do you know of any seeds so light that they are blown about?

Try to find a seed that will float on water. How might that seed be carried from one place to another?

Can you name any birds that feed on seeds? On fruits?

Can you name an enemy of each of these plants: potato, tomato, corn, apple?

100. Soil, Water and Heat.

Every plant grows best where it has the kind of soil, and the amount of water and heat that it needs.

Where do pussy willows and cat-tails grow? Have you ever seen them on high rocky places? They like swamps and the banks of ponds and streams.

Where does the water lily grow? Where are its roots? Do you think that you could make a water lily grow in your garden?

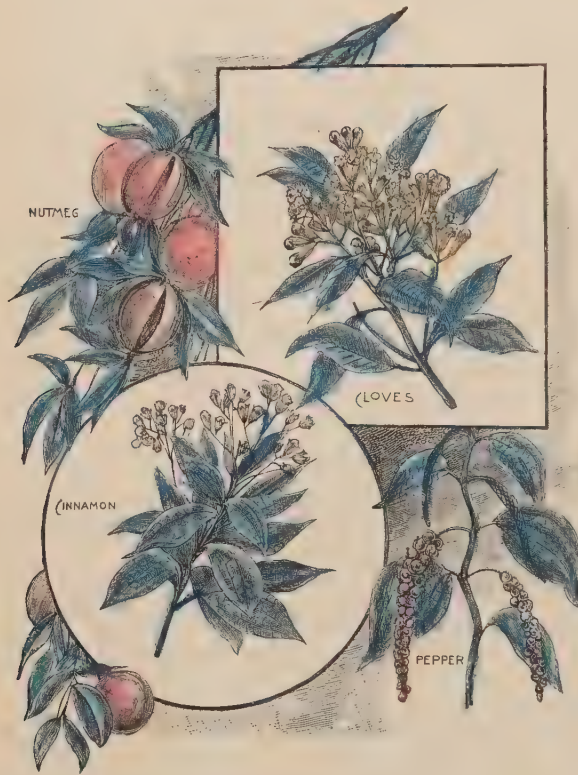
Have you ever seen the pretty white heads of clover waving in dry pastures? Red clover also grows in such pastures, but more of it is found in moist meadows.

Pines thrive on dry and rocky hillsides. Wheat grows best in the rich soil of prairies. Oranges ripen in sunny lands where the warm season lasts nearly all the year.

All over the earth, plants search out the soil, heat and moisture that best suit their needs.

110. Plants of the Hot Belt.

Which of the little people whom we have visited live near the equator? See pages 55 to 73.



Spices.

What do the people of Java eat? What plants grow near the home of our Malay friends?

Where is Tibbu's home? What plants supply food to the people of the Kongo basin?

What have you learned about the selvas? What large lily grows in the shallow water of the Amazon river? Why is it so hard to travel in the selvas?

What do you know about the seasons of the *hot belt*?

The *hot belt* includes parts of the basins of the Amazon, Nile and Kongo rivers, the peninsulas of southern Asia, and the islands southeast of Asia.

This belt has a hot or a warm season all the year, with plenty of rain. The hot belt is very rich in plant life.

Among the chief food plants are the plantain, breadfruit, date and cocoanut.

The plantain is very much like the banana. The banana often grows to the height of twenty feet, with leaves ten feet in length. The fruit grows in large clusters.

In hot lands the banana is widely used as food. On many islands of the Pacific it is the chief food of the natives.

Breadfruit grows on a tree that has large glossy leaves. The fruit is about as large as a melon. It is picked just before it is ripe, and is often cooked by baking. This useful fruit tastes like boiled potatoes and sweet milk.

The breadfruit is also cut into slices and dried in the sun. The slices are then baked, or they are ground to flour and made into bread.

The islands southeast of Asia are very rich in spices. Among these are pepper, cloves, nutmeg and cinnamon.

Cloves grow on trees. The buds are picked when they turn red. They are then dried and sent to market. Cloves have a hot, biting taste.

Cinnamon is the dried bark of a kind of small tree. The outer bark is taken off, and only the inner bark is dried for market. Do you like this fragrant spice?

Nutmegs are taken from a little fruit that grows on a large tree. The seed of this fruit is taken out and dried for several weeks. It is then cracked open and out comes a hard kernel.

This kernel is the nutmeg which is often grated into puddings and pies.

Pepper berries grow in long clusters on a climbing shrub or vine. The berries are dried in the sun.



Banana Plant.

111. Plants of the Warm Belts.

There is a *warm belt* on each side of the *hot belt*.

The warm belt on the north includes Mexico, the southern part of the United States, the shores of the Mediterranean sea, the basin of the Ganges, and the southern half of the plains of China.

The warm belt of the south includes the Plata river basin, the part of Africa

that lies south of the Kongo basin and nearly all of Australia.

The seasons of the warm belts are long, hot summers and short, cool winters. The



Plants of the Heat Belts.

plants of these belts are very much like those of the hot belt.

Among the fruits of the warm belts are oranges, lemons, figs and grapes. The chief clothing plant is cotton. The leading grain is rice.

The warm slopes of southeast Asia produce a large amount of tea.

What have you read about cotton and tea?

112. Plants of the Cool Belts.

The *cool belt* on the north is a wide path across the middle of North America, Europe and Asia.

There is but little land in the cool belt south of the equator.

In the cool belt of the north the hot and cold seasons are about equal in length. The

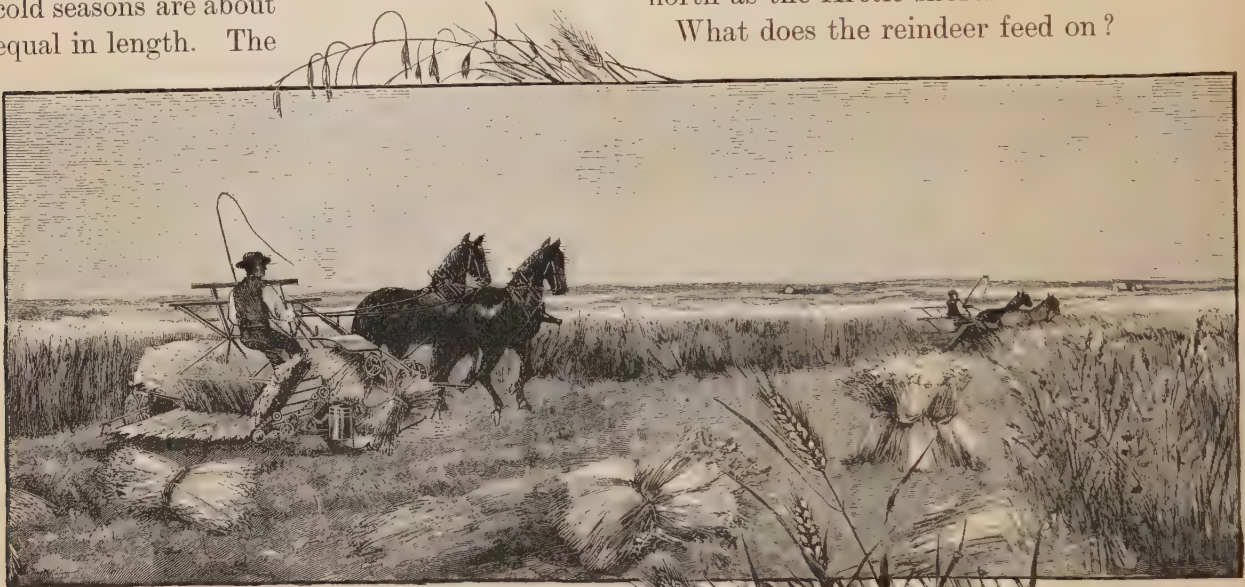
113. Plants of the Cold Belt.

A cold belt reaches from the bleak slopes near the Arctic shore to the north pole.

Very little is known about the islands in the icy sea round the south pole.

The cold belts have very short summers. Stunted trees and shrubs grow nearly as far north as the Arctic shores.

What does the reindeer feed on?



Harvest Scene.

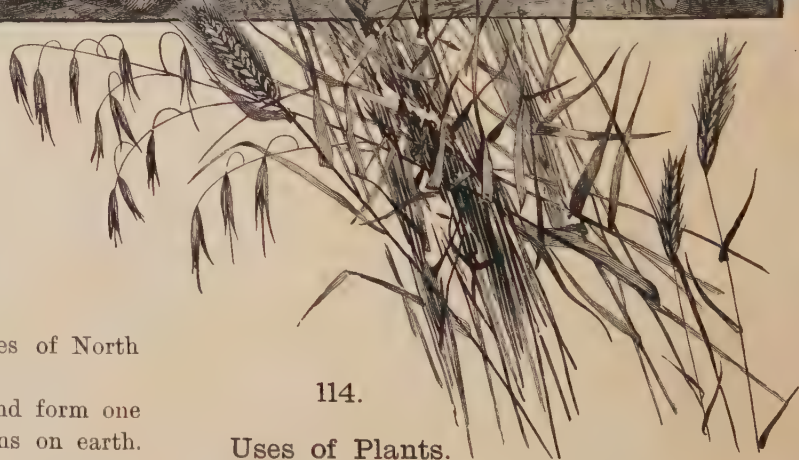
chief products are grains, — wheat, corn, rye, oats and barley. The best grazing lands are in the cool belt of the north. Here are also the largest forests of soft woods, — pine, fir, spruce, etc.

What have you read about the prairies of North America?

These prairies are in the cool belt and form one of the largest and richest garden regions on earth. Over large areas the soil is more than fifty feet in depth. The rainfall is plentiful, and the land is so nearly level that most of the rain that falls here sinks into the soil.

The picture on this page is a harvest scene on the prairies. The large machines drawn by horses reap and bind the wheat.

What kinds of grain are made into flour?



114.

Uses of Plants.

Name six plants that supply food.

What kinds of cloth are made from plants?

What kinds of wood are used in houses?

Do you know of any plants that are used for medicine?

What articles are made from bark? From sap? From buds? Leaves? Roots? Blossoms? Wood?

ANIMALS.

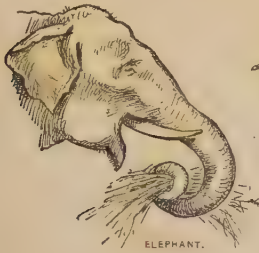
115. Animals,—Their Teeth, Claws, etc.

Name two animals that feed on grass? What kinds of feet or toes have they?

Draw an eagle's foot, and a duck's foot. Can you tell the uses of each?

The heavy horse with wide hoofs can graze on soft land, and its feet do not cling to the grass roots.

The humming bird has a long slender bill which it thrusts deep into sweet blossoms for



GIRAFFE.



DUCK.



ANT-EATER.



EAGLE.



FINCH.



HOG.



HUMMING BIRD.

How do the teeth of a cow differ from those of a cat? Why does a cow not need sharp teeth, like those of a cat?

What kind of covering has a sheep? A frog? A trout? A robin? Where does each live?

Which do you think are warmer, feathers or furs?

nectar and insects. The heron has long legs for wading, and a neck of about the same length to reach down for food.

Animals have many kinds of coverings. There are turtles with strong shells, fish with thin scales, birds with light feathers, frogs with smooth skin, sheep with curly wool, and squirrels with soft fur. Some animals are suited to live in water, and others on land or in the air.

All around us there is a struggle for food.

116. Animals and their Homes.

Every creature is suited to its proper home.

There are many kinds of bills, legs, feet, tongues, noses and teeth, but each kind has its special use. It helps the animal to get



TIGER.



DUCK.



CAMEL.



HERON.



OSTRICH.



EAGLE.

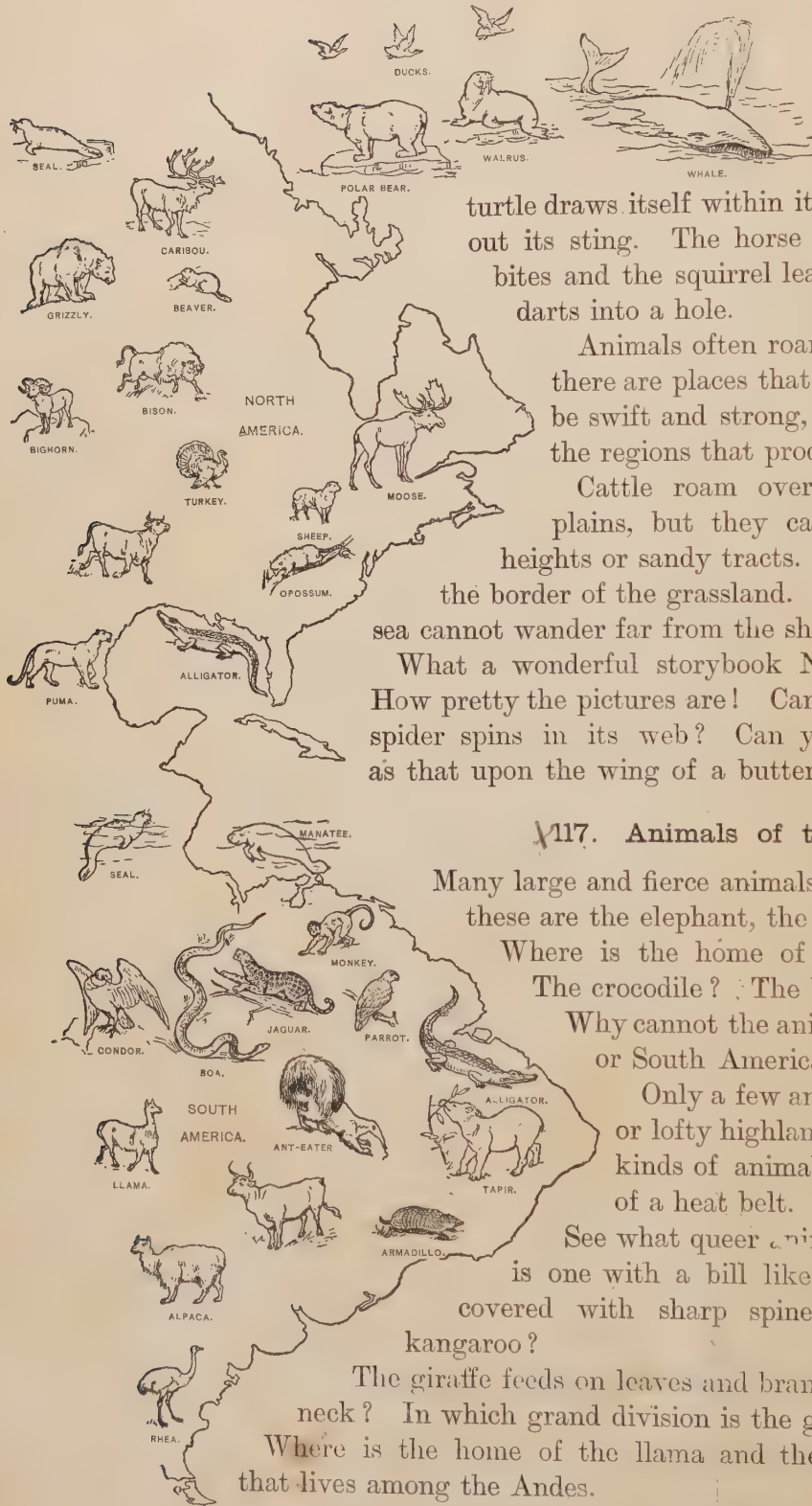


HORSE.

food or to protect itself in the place where it lives.

The eagle has sharp claws and a beak to hold and to tear the flesh on which it feeds.

The sharp-eyed robin makes a dainty meal of earthworms, and soon the cheery songster may be in the claws of a cat. The owl flies about in the evening, looking for field-mice.



Every creature has some means of defense or of escape. The fly, with its many eyes and its wings, often saves itself by flight. The turtle draws itself within its hard shell. The bee thrusts out its sting. The horse kicks, the cow tosses, the dog bites and the squirrel leaps from branch to branch or darts into a hole.

Animals often roam about in search of food, but there are places that they cannot cross. They may be swift and strong, but they cannot live beyond the regions that produce their food.

Cattle roam over meadows and high, grassy plains, but they cannot pass over broad, rocky heights or sandy tracts. The wild horse must stop at the border of the grassland. Animals whose food is in the sea cannot wander far from the shore.

What a wonderful storybook Nature writes in each season. How pretty the pictures are! Can you read the story that the spider spins in its web? Can you draw a picture as pretty as that upon the wing of a butterfly?

117. Animals of the Heat Belts.

Many large and fierce animals live in the hot belt. Among these are the elephant, the lion and the gorilla.

Where is the home of the camel? Of the tapir? The crocodile? The boa? The rhinoceros?

Why cannot the animals of Africa reach Australia or South America?

Only a few animals can cross oceans, deserts or lofty highlands. For this reason the same kinds of animals do not roam over all parts of a heat belt.

See what queer animals live in Australia! There is one with a bill like that of a duck. Another is covered with sharp spines. Have you ever seen a kangaroo?

The giraffe feeds on leaves and branches. Of what use is its long neck? In which grand division is the giraffe found?

Where is the home of the llama and the alpaca? Name a large bird that lives among the Andes.

Name three animals that live in the warm belt of the south.

Name three in the warm belt of the north.

Where is the home of the bison? Of the buffalo? The yak? The moose? The grizzly bear? The chamois? The elk?

Is the beaver found in a cold land or in a warm one? Name four animals of the cool belt of the north.

Cattle, sheep and horses are found chiefly in the cool and warm belts.

Some animals brave even the Arctic weather in their search for food. Neither the chilly wind, the frozen ground nor the icy water can rob their bodies of warmth, for they have soft fur, downy feathers or oily flesh.

Name four large animals that live in the Arctic regions.

Perhaps you can draw some of the animals in the pictures.

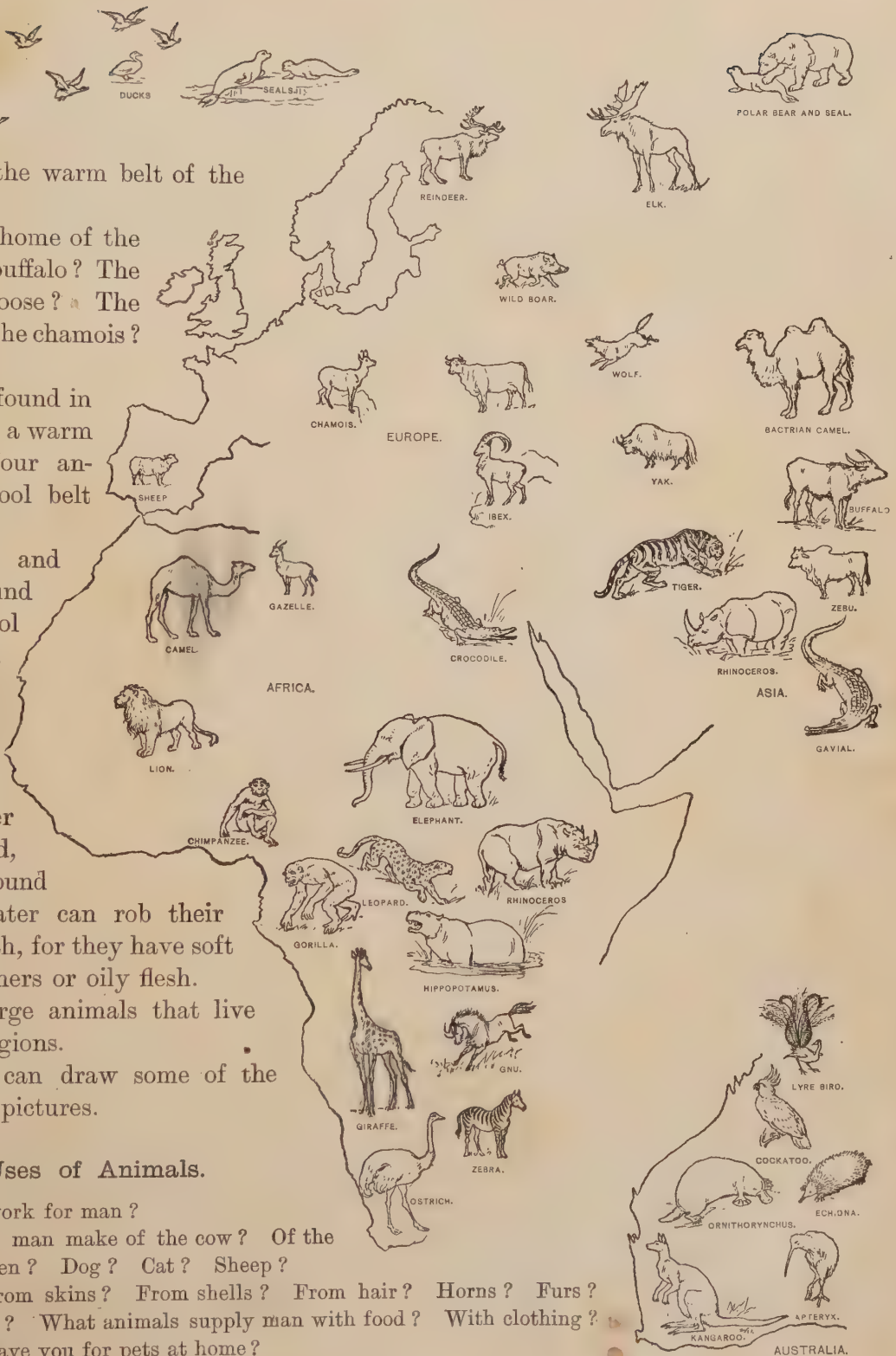
118. Uses of Animals.

What animals work for man?

What uses does man make of the cow? Of the horse? Of the hen? Dog? Cat? Sheep?

What is made from skins? From shells? From hair? Horns? Furs? Feathers? Bones? What animals supply man with food? With clothing?

What animals have you for pets at home?





Coast near San Francisco.



Coast of Maine.

NORTH AMERICA.

119. Surface of the United States.

The United States includes the middle part of North America and all Alaska.¹

The north shore of the gulf of Mexico is at one third of the distance from the equator to the north pole. The line which is just halfway between the equator and this pole passes through the Great Lakes. The southern part of the United States is in the warm belt. The northern part is mainly in the cool belt.

REVIEW. — What bodies of water border on the United States?

Between what high mountains does the Great Basin lie?

Where does the Colorado river rise? For what is it noted? Into what gulf does it flow?

Through what high range does the Columbia river flow? Into what sea does the Yukon river flow?

¹ See map of North America.

Where are the Great Lakes? Name them. What river flows from lake Ontario? *See map, page 90.*

What bounds the basin of the Mississippi on the west? On the east? On the north?

Name a large river that flows into the Mississippi from the west? Where does the Missouri river rise? Into what does the Ohio river flow?

Where are the prairies? The western plains? The southern plains? Tell what you have learned about the surface of the United States.

Where is the city of New York?

Southward from New York, along the Atlantic ocean and gulf of Mexico, the coast is mainly low and sandy. The best harbors are near the mouths of rivers or form parts of large bays.

East and northeast of New York the coast is in many places rocky and broken, and there are many fine harbors. There are but few good harbors on the Pacific coast of the United States.



Coast of Southern California.



Coast of Florida.

120. People.

Who was Columbus? When did he live? What people lived in America at that time?

Nearly all the early settlers in the land now called the *United States* made their homes along the Atlantic coast. Let us see why:—

a. The early settlers came from Europe and landed on the east coast.

b. There were no roads nor long rivers leading inland from this coast to the prairies.

Towns soon grew up along the lakes and rivers. Many of the towns were trading stations where the Indians sold furs for beads, knives, powder and other articles.

About fifty years ago gold was found near the Pacific coast, and many people went there in search of fortunes. Some crossed the vast plains and basin region, in wagons or on horses. Others sailed round cape Horn. Still others went in vessels to the isthmus of Panama, crossed that neck of land, and then



c. The Appalachian highland stood between the Atlantic coast and the prairies.

d. Savage tribes held the lands that were a little back from the coast.

e. The settlers wished to trade with the ships from Europe.

After a time, people found that there were vast fertile prairies west of the mountains, and that they could reach them by sailing down the Ohio river or up the Great Lakes. Many also went up the Mississippi river from its mouth.

sailed up the coast. Thus the west shore of our country was settled.

From time to time new deposits of silver and gold were found in many parts of the Rocky mountain highland. Mining camps soon grew to be towns or cities, and thus even the great highland was settled.

The dots on the above map show the location of cities and towns. Where are the dots largest and thickest?¹

¹ The star on the map shows the center of population, according to latest census.

Which has the greater number of dots, the Mississippi basin or the Rocky Mountain highland? What part of the Mississippi basin is most thickly settled?



Where is the *Pacific slope*? Where is the *Atlantic slope*? Which of these slopes is the most thickly settled? Can you tell why?

About one tenth of the people of the United States are Negroes.

A long time ago, many black people from Africa were sold as slaves in the United States. Their labor proved most helpful in the cotton fields of the South.

At length all the slaves were set free, and most of them made their homes on the southern plains where they had worked.

The number of Indians in the United States is very small compared with the number of Negroes. The red-brown people of the United States have in most cases been placed on lands set apart for them in various parts of the country.

121. July 4, 1776.

Each band of early settlers formed a *colony*. The people of the colonies were called *colonists*. Most of those who made their homes along the Atlantic coast came from England.

During the wars which the colonists had with the Indians, many of the small colonies united to form larger ones. Can you tell why they did so? After a time there were thirteen large colonies.

The king of England made the colonists pay unjust taxes, and at length wise men in the colonies were chosen to decide what should be done.

On *July 4, 1776*, these brave men voted to declare their land free from English rule, and to form a new nation,—“to assume, among the powers of the earth, the separate and equal station to which the laws of nature and of nature’s God entitle them.”—*Declaration of Independence*.

Each colony was called a *state*, and all the states together formed the *United States of America*.

At that time the United States held the land as far west only as the Mississippi river. The country now reaches from ocean to ocean, and many new states have been formed.

The city of Washington is the capital of the country.

All the states send men to Washington, and these make laws for the whole nation. Each state is also somewhat like a nation, and can

make laws for itself, but such laws must not conflict with those made in Washington.

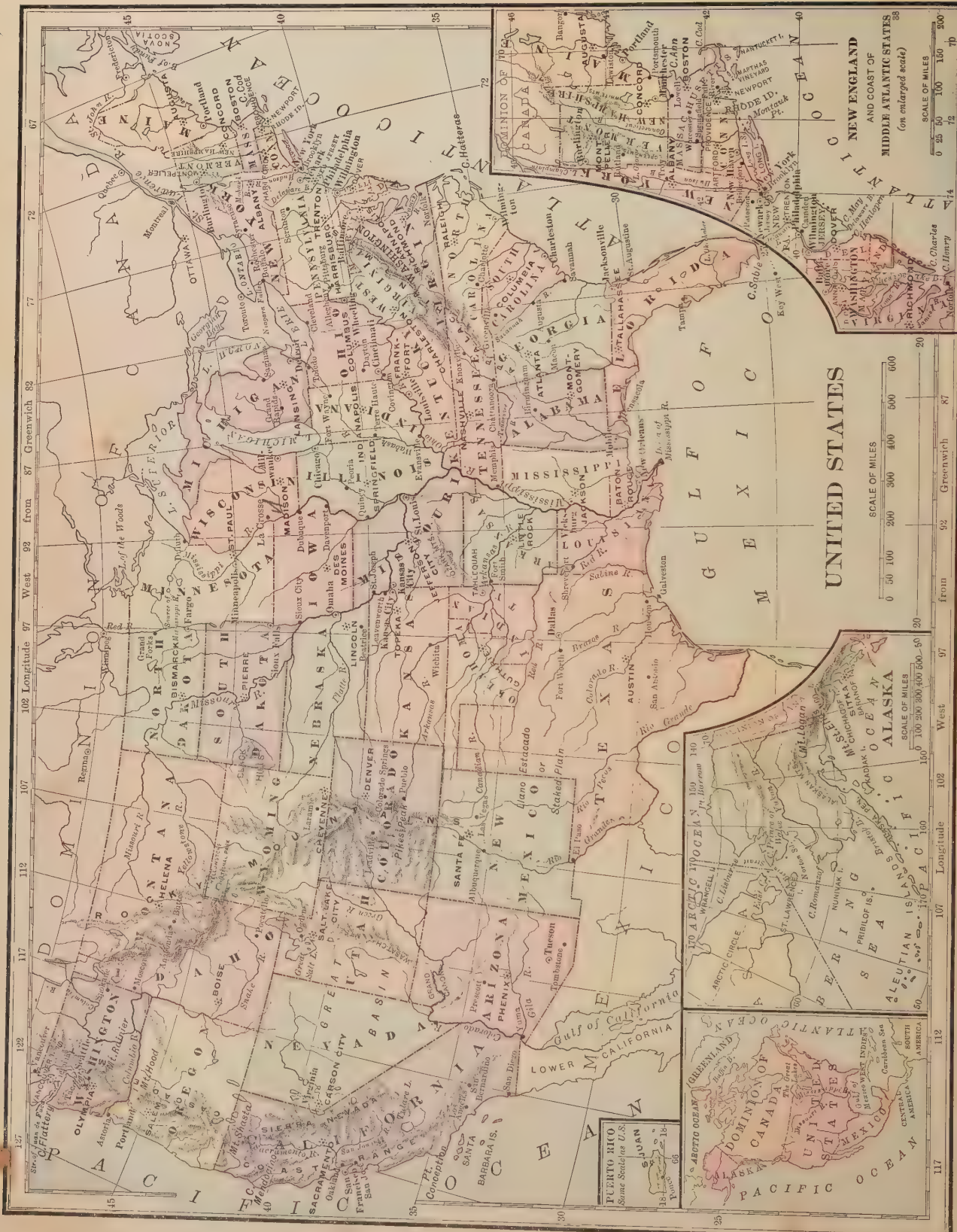
Each state has a capital. Cities and towns that are capitals are marked by stars (*) on the maps.

Find out all you can about the “minute men.”



Minute Man.





122. Map Studies of the States.¹

In what state do you live? In what part of the United States is it?

Name the states that border on the Atlantic ocean.

What states are separated by the Delaware river? By Delaware bay? By Chesapeake bay? By the Potomac river? By the Savannah river?

Name the states along the gulf of Mexico. In which state is the delta of the Mississippi? What two gulf states are separated by the Mississippi river? What river flows between Texas and Mexico?

Which states border on lake Erie? On lake Michigan? On lake Superior?

Name the states along the north bank of the Ohio. On what lake does each of these states border? What states are on the south bank of the Ohio?

In what state does the Mississippi river rise? Name in order the states along the *left* bank of this river. Name those that lie along the *right* bank.

What states are crossed by the Missouri river? Between which does it flow? Across what states does the Arkansas river flow?²

What states are crossed by the Rocky mountains? What states border on the Colorado river? Which are separated by the Columbia river? In what state is the Great Salt lake?

What states border on Mexico? On the Pacific ocean? On Canada?

¹ How to pronounce the names of states:

ALABAMA	āl'a-bā/ma
ALASKA	ā-lās/ka
ARIZONA	ār-i-zō/na
ARKANSAS	ār/kan-sā
CALIFORNIA	kāl'i-fōr/nī-a
CAROLINA	kār-ō-lī/na
COLORADO	kōl'o-rā/dō
CONNECTICUT	kōn-nēt/i-kūt
DAKOTA	da-kō/ta
DELAWARE	dēl/a-wār
FLORIDA	fłōr/i-da
GEORGIA	jōr/jī-a
IDAHO	i/da-hō
ILLINOIS	il-lī-noi'
INDIANA	īn/dī-ān/a

IOWA	i/ō-wa
KANSAS	kān/sas
KENTUCKY	kēn-tūk/i
LOUISIANA	lōō-ē-zē-ā/na
MAINE	mān
MARYLAND	mēr/i-land
MASSACHUSETTS	mās'a-chū-sets
MICHIGAN	mīsh/i-gan
MINNESOTA	mīn'e-sō/ta
MISSISSIPPI	mīs'is-īp/i
MISSOURI	mīs-ōō/rī
MONTANA	mōn-tā/na
NEBRASKA	ne-brās/ka
NEVADA	ne-vā/da
NEW HAMPSHIRE	hāmp/shūr

123. Leading Cities.

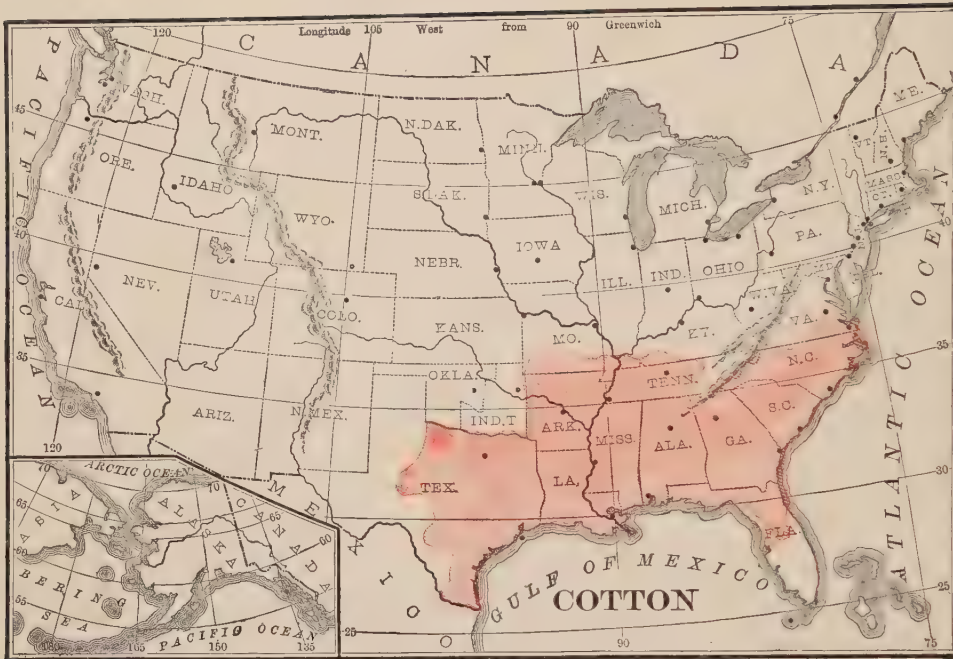
Find on the map the following cities. Tell in which state each city is located; also, where it is,—whether near a large river, lake, bay, gulf, mountain range or near the sea.

NEW YORK	nū yōrk'
CHICAGO	she-ka/gō
PHILADELPHIA	fīl'a-dēl/fī-a
ST. LOUIS	sānt lōō'is
BOSTON	bōs/ton
BALTIMORE	bāl/tī-mor
SAN FRANCISCO	frān-sīs/kō
CINCINNATI	sīn'sīn-nā/tī
CLEVELAND	klēv/land
BUFFALO	būf/fa-lō
NEW ORLEANS	ōr/le-anz
PITTSBURG	pīts/būrg
WASHINGTON	wōsh/īng-ton
DETROIT	de-troit'
MILWAUKEE	mīl-wa/kē
MINNEAPOLIS	mīn'e-āp/ō-līs
LOUISVILLE	lōō'-īs-vīl
OMAHA	ō/ma-hā'
ST. PAUL	sānt pal
KANSAS CITY	kān/sas
DENVER	dēn/ver
RICHMOND	rīch-mōnd
NASHVILLE	nāsh/vīl
ATLANTA	āt-lān/ta
PORTLAND (ORE.)	pōrt/land
SEATTLE	sē-āt/l

NEW JERSEY	jēr/zī
NEW MEXICO	mēx/i-kō
OHIO	ō-hī/ō
OKLAHOMA	ōk-lā-hō/ma
OREGON	ōr/e-gōn
PENNSYLVANIA	pēn'sīl-vā/nī-a
RHODE ISLAND	rōd i/land
TENNESSEE	tēn'nes-sē'
TEXAS	tēx/as
UTAH	ū/tā
VERMONT	ver-mōnt'
VIRGINIA	ver-jīn/i-a
WASHINGTON	wōsh/īng-ton
WISCONSIN	wīs-kōn/sīn
WYOMING	wī-ō/mīng

KEY: āle, cāre, ām, ārm, final, āll; ēve, ēvent, ēnd, hēr, recent; īce, īll; ōld, ōbey, fōr, ōn; ūse, ūp, fūr; fōōd, fōōt; g as in go.

² To Teacher: It does not seem desirable at this time to make a distinction between states and territories.



124. Cotton.

In what part of the United States is cotton raised? (See dark tint on map.)

The cotton region, or "belt," reaches from the gulf of Mexico about halfway to the Great Lakes. It has a long hot summer and a short cool winter. This region is in the *warm belt*.

The cotton fields reach the sea on the east and south, and the great plains on the west. Cold seasons prevent this plant from growing farther north.

The cotton region has plenty of rain all the year. It is brought by warm winds from over the gulf of Mexico and from over the sea on the east.

New Orleans is the leading city in the cotton trade.

About one half the people on earth wear clothing made wholly from the fiber that grows around cotton seeds. Nearly all the

rest of the human race, except the lowest savages, use it in some portion of their dress. Part of the fiber is also made into thread and rope.

Machines, called *cotton gins*, are used to separate the fiber from the seed. The gin has little saw teeth that draw the fiber through slits too narrow to admit the seed.

The best cotton grows on low islands along the Atlantic coast. It is known as *Sea Island cotton*, and its fiber is long, fine and strong.

The states of the northern half of the Atlantic slope make millions of yards of cotton cloth every year. Many cotton mills are also run in some cities of the South.

What states are in the cotton belt?



Cotton Field.

125. Maize or Indian Corn.

The rich prairies between the cotton region and the Great Lakes are in the *cool belt*. There the hot and cold seasons are of about equal length.

The soil of the prairies is warm and mellow in summer. Once in a while there is a very dry season, but as a rule there is plenty of rain.

The prairies are the richest grain region on earth. One of the leading grains is *maize*, or *Indian corn*.

What states are in the region where most of the corn grows?

Corn is often ground to meal and is then made into various kinds of bread. Green corn is boiled on the cob, and used as food.

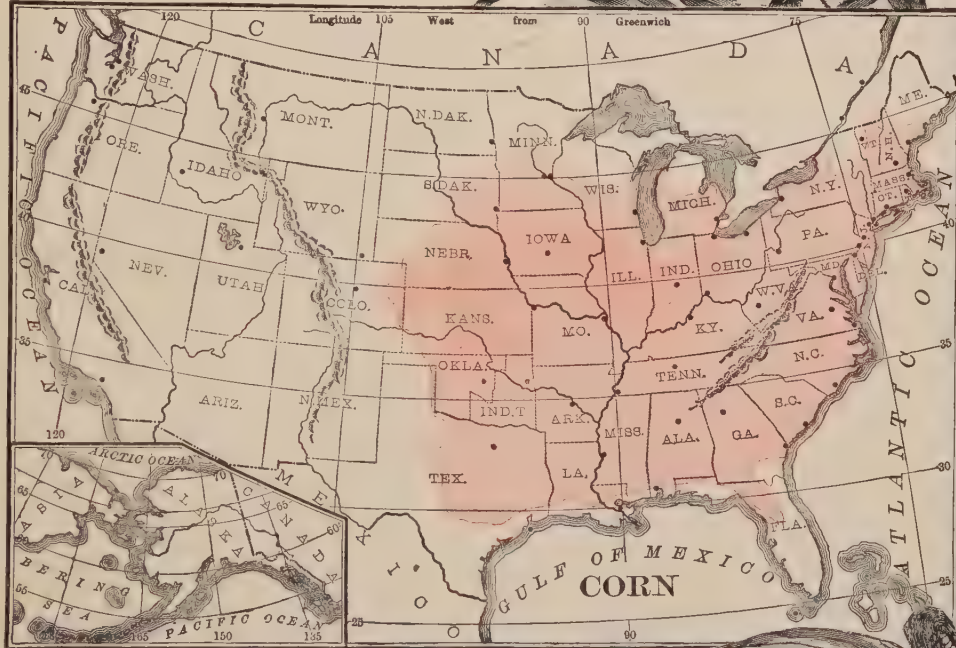
When corn is *thickly sown* ears do not form, but the stalks are rich and sweet. These are used as fodder or food for cattle.

Is there a girl or a boy in all our land who does not know what "pop corn" is? Do you like to watch the kernels burst with a *pop*, and puff into a snowy mass?

Frost kills growing corn, and cold nights hinder its growth. For these reasons, it does not grow so far north as some hardier grains do.

When the white men came to America, they found that the Indians had large fields of corn.¹ This useful grain was then taken to Europe, and later to nearly all lands having long and hot summers.

Chicago is the center of the



corn trade in the United States. Where is Chicago?

Thousands of shiploads of grain are sent down the Great Lakes from this city. A large part of this grain passes through the Erie canal.

¹ It is claimed that maize was known to the people of southeast Asia long before the discovery of America, but this grain did not come into general use till long after it was found in the gardens of the Indians.



126. Wheat.

To the people of the United States, *wheat* is the most valuable of all grains.

Wheat is chiefly used in making flour. The little seed or fruit consists of a grain inside a husk. Only the inner part of the grain is ground into fine white flour.

Wheat thrives all over the rich prairies, and even far north across the border of the United States. The valleys of the Pacific slope yield large crops of this useful grain.

A large part of the wheat crop passes through Chicago. Every year this city ships many million bushels by steamer and by rail. The chief ports that handle wheat are New York, Baltimore and San Francisco. The

city of Minneapolis leads the world in making flour. Where are these cities?

It is not known where wheat was first found, but it is not a native of America. This grain is chiefly raised in the *cool* and *warm belts*.

Wheat is often sown for hay, and the stalks make good straw. This grain stands cold nights and frost much better than corn does, and so is raised much farther north.

Find out at home what articles are made of wheat flour. Have you ever been in a mill in which corn or wheat is ground?

Name the states in which the most wheat is raised.

127. Forests.

What objects that you can now see are made of wood?

Can you name a tree that gives us food, and one that helps to warm us?

Have you ever taken any kind of medicine that came from a tree?

Which is the prettiest wood that you have seen in furniture? Do you know of two kinds of trees that are used in building houses?

What parts of wagons are made of wood? Name some wooden weapons. Of what do Indians make canoes?

What kinds of trees grow near your school? Perhaps you can make a collection of various kinds of wood.

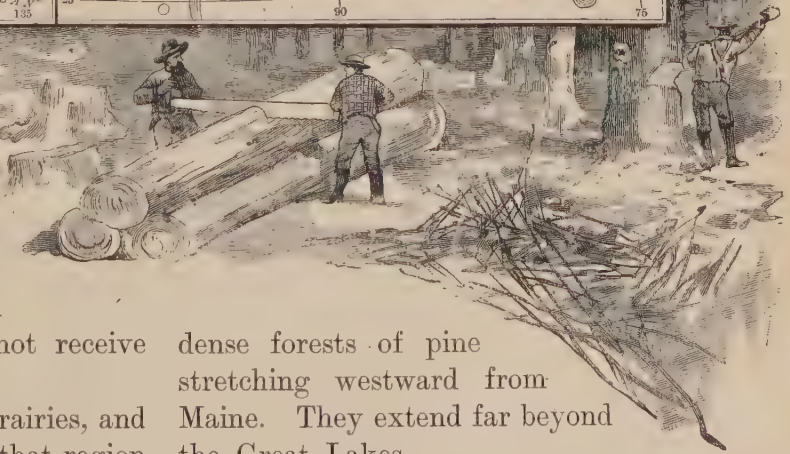
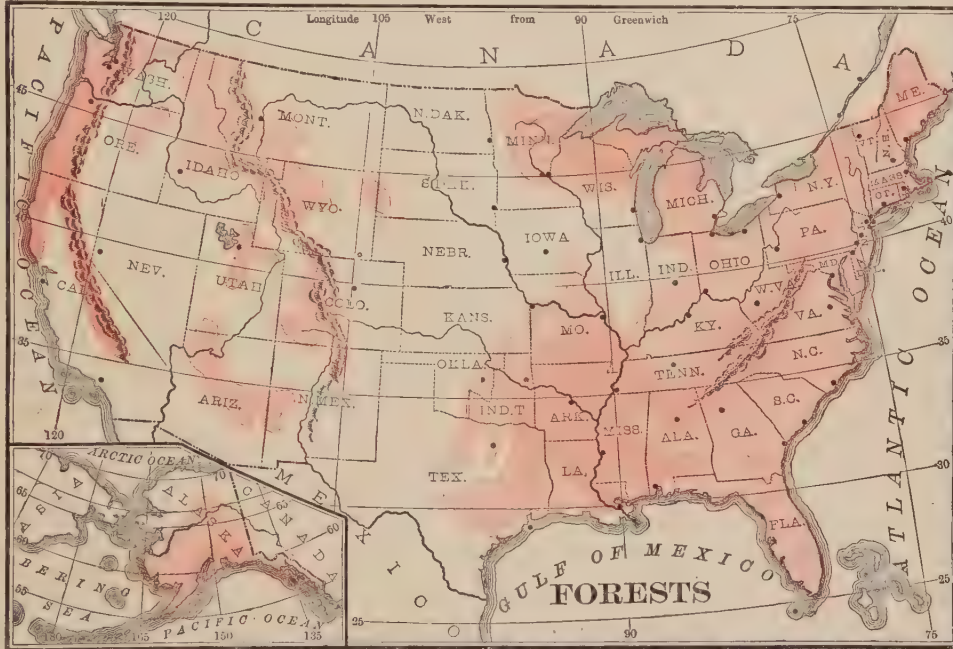
Three parts of the United States have very few trees. These are the prairies, the western plains and the Great Basin. The western plains and the Great Basin do not receive rain enough to support forests.

There is plenty of rain on the prairies, and it is thought that many years ago that region was forest-clad.

Before the white people settled on the prairies, the Indians often set fire to the grass so that it would spring up fresh and green for the herds of bisons. The fires killed the young trees, and when the large

trees died from old age there were none there to take their places.

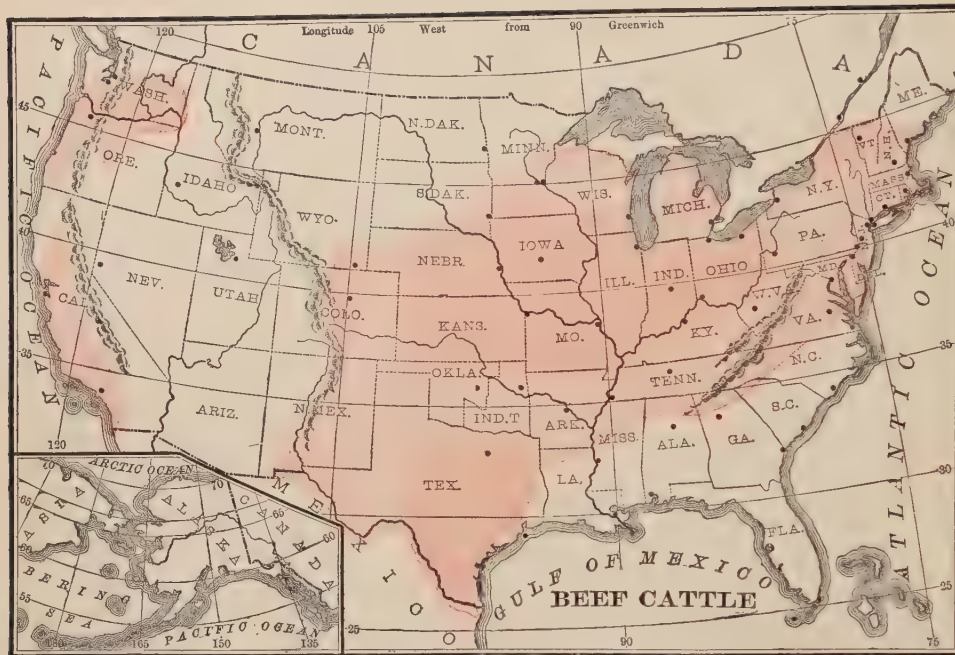
The trees of the Pacific slope are chiefly soft wood, such as pine and fir. Those in the eastern part of the country are largely hard wood, such as maple and oak. There are also



dense forests of pine stretching westward from Maine. They extend far beyond the Great Lakes.

Do not think that trees cover all places shaded on the map. In the forest regions there are millions of acres of grass, cotton, grain, tobacco and scores of other kinds of useful plants.

Name six uses of trees.



128. Cattle.

What kind of meat do you like best? What animals supply mutton? What ones supply pork? Beef? Veal?

How is butter made? What is cheese made of? What uses are made of the hides of cattle?

There are thousands of cattle in even the smallest of the states, but millions graze on the prairies and western plains.

Texas is the leading cattle state. Iowa holds second place.

The cattle of the *plains* are raised chiefly for beef and hides. The hides are sent east to be made into leather.

A large part of the wealth of the people who live on the prairies consists of cows. These are kept not only for milk, but also for butter and cheese.

largest number of cattle are found, and we should not forget that there are many cattle in nearly every settled portion of this broad land.

Chicago and Kansas City are the chief centers for meat packing. Where are these cities?

The states raising the greatest number of sheep are Texas, Ohio and California. Ohio



A Scene on the Western Plains.

produces the most wool. The states in the northeast part of the United States make a large amount of woolen cloth and yarn.

The milk room on a farm is called a *dairy*. Milk, butter and cheese are *dairy products*.

New York is the leading dairy state. The other states also that border on the Great Lakes are rich in dairy products. Iowa is the leading dairy state west of the Mississippi river.

The places marked on the map show only where the

129. Coal.

Coal is dug from layers or beds in the ground. The patches of color on this map show where these beds are found.

Coal is formed chiefly of great ferns,¹ mosses and rushes that grew in vast swamps, long ages ago. These plants died and made thick woody layers in the swamps.

In some way these layers were buried in mud, upon which other plants grew. For ages and ages the work went on, till there were many layers of woody plants buried deep in beds of mud.

This wood was slowly changed into coal, and many of the beds of mud became rock.

In place of the old swamps there are now broad fields and long mountain ridges, but the hard layers of coal are still under the surface.

¹ See the tree ferns on page 53.



Coal Breaker.

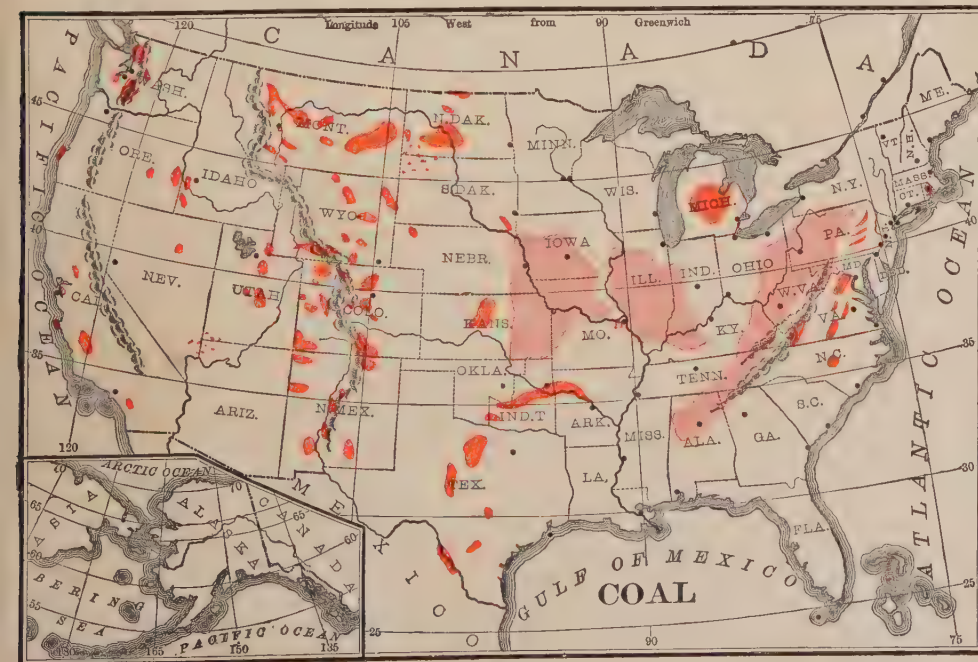
By digging into some of the ridges, or deep in the fields, people find the brown or black layers to burn.

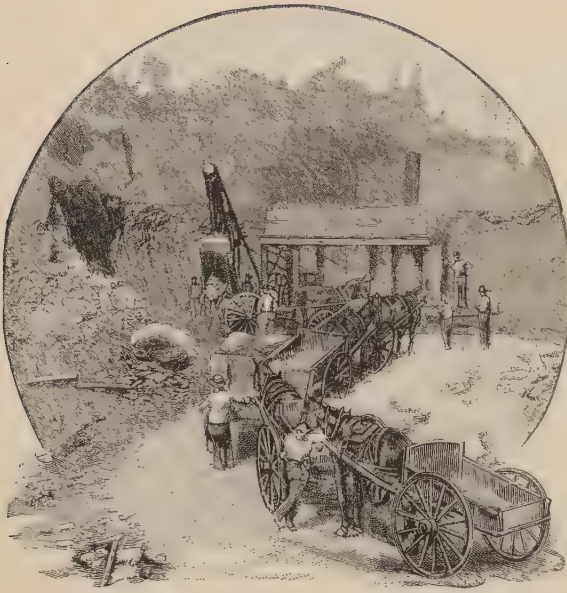
More than one half the coal used in the United States is taken from the mines of Penn-

sylvania. Illinois ranks second and Ohio third.

When hard coal is taken from mines, much of it is in large pieces. These are crushed between heavy iron or steel rollers in great buildings, called *breakers*.

The boys in the picture are picking slate from coal, as it slides down a long trough or chute.





Entrance to an Iron Mine.

130. Iron.

What objects can you now see that are made of iron? What iron articles are used in your homes? ¹

Name ten iron tools; five iron weapons; three iron machines. What iron goods have you seen in stores? In what parts of your school building is iron used?

Can you name some of the uses of iron on railroads? Do you know what steamships are made of?

Which do you think is the more useful, wood or iron?

When some kinds of rock are heated very hot, they melt and iron comes from them. The rocks which contain iron are called *iron ores*.

Some iron ore is dug from the ground. It is in layers, like

¹ Steel is one form of iron.

coal, but we do not know exactly how the iron rocks were formed.

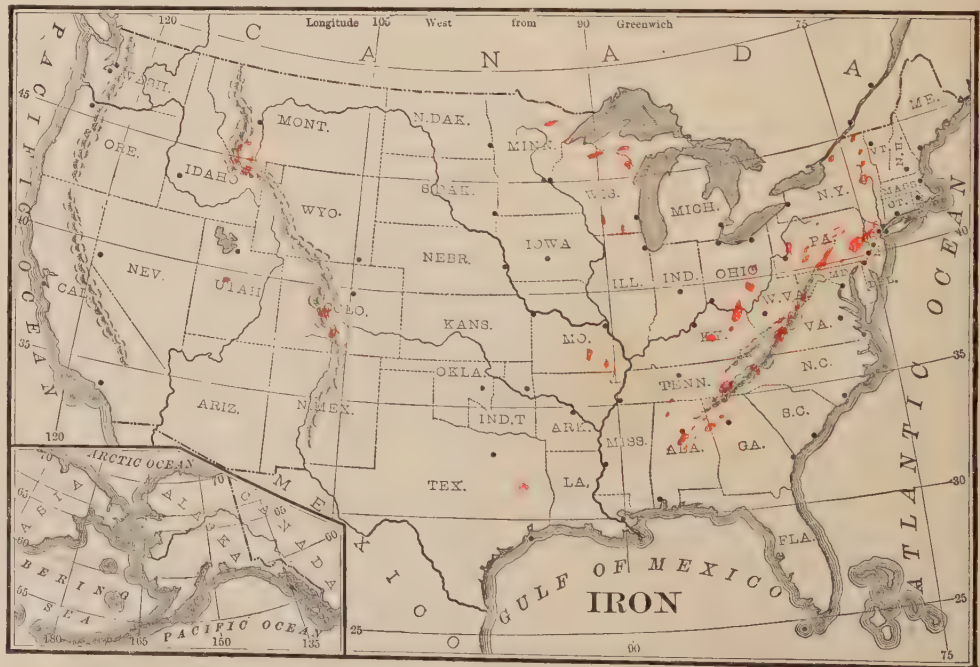
Coal is used in melting iron ore, and it often happens that coal and iron are found near the same places. Many large cities owe their growth to this fact. Can you tell what articles are often made in such cities?

The richest iron mines in this country are near lake Superior. In the production of iron ore, Michigan leads all other states. Pennsylvania, New York and Alabama also have very rich mines of iron ore.

The great centers of steel and iron manufacture are Chicago and Pittsburg. Here are made most of the steel rails used in this country; also, armor plates for warships, steel plates for other steamships, and nearly every kind of tool and machine used by the people of this great nation.

It is the nearness of coal and iron mines that places these cities in the lead.

Before men could read or write, and while



they were yet savages, they melted iron from the ore and shaped it into weapons.

131.

Gold and Silver.

Do you know any of the uses of gold?

Name some articles that are made of silver. Can you name the silver coins used in the United States? Can you name the gold coins?

What is the color of gold? Of silver?

Which is the more useful, gold or iron?

Pure gold is taken from the beds of streams, and also out of the ground. Gold is often mixed with other substances in rocks.

Silver is rarely found in a *pure* state in nature. Gold and silver are often found in the same rock or *ore*. The metal is

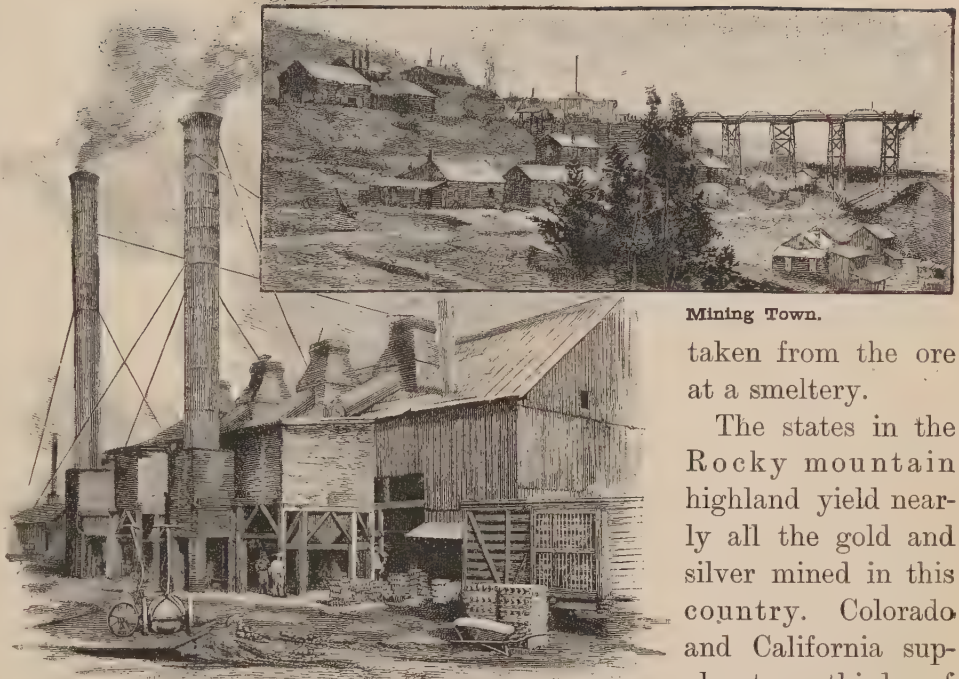
taken from the ore at a smeltery. The states in the Rocky mountain highland yield nearly all the gold and silver mined in this country. Colorado and California supply two thirds of the gold, and Colorado about one third of the silver. Montana takes second place in the production of silver. Both of these "precious metals" are found

in nearly all the ranges of the Western highland, but the Rocky mountains and Sierra Nevadas are richest in silver and gold.

The silver mined each year is worth much more than the gold.

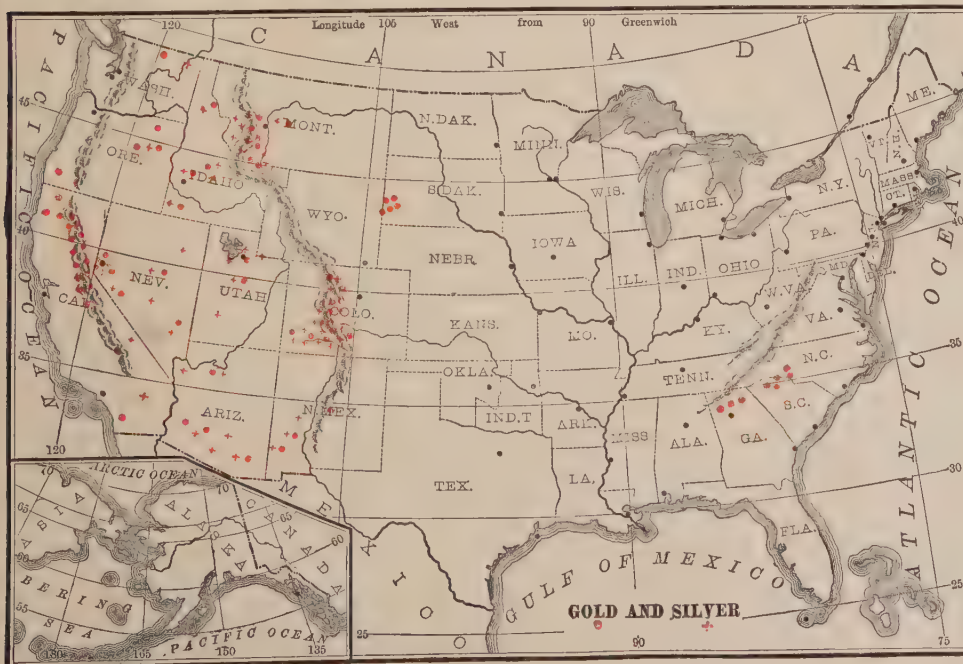
Summary.

Pennsylvania is the banner state for minerals. Michigan, Colorado and Montana are the other leading states.



Mining Town.

A Smeltery.



132.

Routes of Trade.

We have seen that the same products are not

found in all parts of the earth. The rich prairies are best suited to farming, and the higher plains to grazing. The southern plains yield large harvests of cotton, while the highland of the west produces gold and silver.

Let us peep into the stores a moment. Here are tea from China, and coffee from Brazil. This spice is from Java, and this fruit is from the groves of California. This rubber was taken from a tree in the selvas, and these knives came from the workshops of England.

Rivers, railroads and oceans are the chief highways of trade. Much has been done to improve many of these highways. Rocks have been taken out of rivers and harbors, and sand bars have been dredged away. Canals have been made round rapids and waterfalls, as well as from river to river and from sea to sea.

It is far cheaper to carry goods by water than by land. On the sea there are no roads nor tracks to be built and kept in repair.

Every producing region needs one or more shipping points. These become centers of trade. They should be within easy reach of all parts of the region, and should connect by water, rail or other route, with the markets of the world.

Railroads cross the United States from ocean to ocean, by half a dozen routes. They run along every seacoast. They wind with great rivers. They climb mountains and cross canyons.

Years ago rivers were the chief highways of inland trade, but now railroads have taken first place. To-day cities and towns are dotted all along the lines where freight trains gather up the products of farm, forest and mine.



133. New York.

134. Boston.

We will first study the great seaports, and then the inland cities.

New York has a larger trade than any other city in the United States.

The greater part of this city is on an island near the mouth of the Hudson river.

New York has one of the best harbors in the world. Brooklyn and Jersey City are on the same harbor. The former is a part of New York city. The commerce of this great port

As a seaport of the United States, Boston ranks next to New York.

Boston has a fine harbor. This city was for a long time the chief port through which the products of the prairies and plains were sent to foreign lands. The building of the Erie canal turned a large part of this trade to New York. The cities and towns for many miles around Boston have hundreds of busy workshops. Here are many mills mak-

ing cotton and woolen cloth; shops for boots and shoes; and factories for all kinds of jewelry, clocks, knives, forks and other articles.



Public Gardens, Boston.

is now about equal to that of London, the largest city in the world. The *Erie canal* leads from lake Erie to the Hudson river, and many of the products of the West reach New York by this route. Long lines of railroad also run to this city, from all parts of the country. The West sends some of its grain, beef and iron, while the South sends part of its cotton and other products to this port.

New York is a great center of manufactures. Nearly all kinds of goods are made in this city and the region around it.

The canals, ships and railroads carry back to the West and South clothing, shoes, tools, tea, coffee and hundreds of other articles.

New York is the chief money center of the country. Many of the longest lines of railroad are owned here.



Water Front, New York.

Boston is like a main office for these busy workshops. It receives for them such products as raw cotton, wool, hides and leather, and then sends cloth, boots, shoes and other manufactures to all parts of the United States and to many other countries.

Boston handles more wool than any other city in the United States. It is also the greatest boot, shoe and slipper market in the world.

This city and its suburbs have been the homes of many famous patriots, poets and authors.

135. New Orleans.

New Orleans is about one hundred miles from the mouth of the Mississippi river, and forms a natural outlet of trade towards the south. The noble river floats to New Orleans many of the products of the states that line its banks.

New Orleans is the leading market for cotton. Its trade in rice and sugar also is

137. Philadelphia.

This city is on the Delaware river. It is one of the leading ports of the country, and ranks among the first cities in manufactures.

Philadelphia owed its growth in part to a system of canals leading to it from the coal and iron regions. Canals also connect this port with New York and Baltimore. Where is Baltimore?



A Scene in New Orleans.

large. The workshops of the city are growing very fast.

Several long lines of railroad center in New Orleans.

136. San Francisco.

This city has one of the largest and most beautiful harbors in the world. Nearly all the foreign trade of the Pacific states passes through this port. The grainfields, vineyards, groves, mines and cattle ranches send many of their products to San Francisco. As a shipping point for wheat and flour, this city is near the head of the list.

The Golden Gate is the name of the entrance to San Francisco harbor or bay.

The nearness of coal and iron gave Philadelphia a strong start in manufactures. Its workshops turn out nearly every kind of iron and steel goods.

This city ships a large amount of coal and iron to other cities.

Philadelphia is reached by long lines of railroad from the west, south and north. Heavy trains bring to this port grain, beef, cotton, tobacco and other products.

The states of Ohio, New York and Pennsylvania raise large flocks of sheep.

Much of the wool is taken to Philadelphia, and there made into carpets, cloth and yarn. This city leads the world in making carpets.

138. Chicago.

We will now study the leading inland cities.

One of the chief routes of trade from the prairies and western plains to the ports of the Atlantic is by way of the Great Lakes.

The amount of shipping on these lakes is very large, and the greater part of the trade passes through Chicago. This city is the greatest railroad center on earth. Lines of steel rails meet here like spokes in a hub. A canal passing through Chicago connects lake



Michigan with a branch of the Mississippi river.

Chicago is the largest grain and meat market in the world. It also leads in making steel rails. The iron ore used in this city is taken chiefly from mines near lake Superior, while coal is found in large beds south of the city.

New York is the only city in America larger than Chicago. The latter place is growing more rapidly, perhaps, than any other city in the world.

Chicago is famous as the site of the greatest fair ever held. What fair was it?

139. St. Louis.

St. Louis is the largest center of trade west of the Mississippi river.

The states along this river below St. Louis send cotton, tobacco and sugar to this great market. The western plains and the prairies supply cattle and grain. Cars and boats from St. Louis reach nearly every part of the

prairies and plains, carrying flour, clothing, tools, machines and many other articles.

Other large centers of trade are :—

Baltimore, one of the leading seaports of the United States. Its trade is about equal in value to that of Philadelphia. Among the chief exports of Baltimore are grain, flour, tobacco, cattle and oysters.

In recent years, Baltimore has had remarkable growth as a port for the shipment of grain carried by rail to the seaboard.

Cincinnati, clothing, liquors and iron goods.

Cleveland, iron, copper, coal and petroleum.



World's Fair Buildings, Chicago.

Buffalo, grain, meat, iron and lumber.

Pittsburg, steel, iron, glass and coal.

Detroit, grain, lumber and iron goods.

Milwaukee, iron, liquors, meat and leather.

Newark, clothing, jewelry and leather goods.

Minneapolis, flour and lumber.

Louisville,¹ tobacco; **Omaha**, railroad center; **Rochester**, flour; **St. Paul**, railroad center and river port; **Kansas City** (Mo.), railroad center, meat; **Providence**, cloth, jewelry, engines and tools; **Denver**, silver, lead, lumber and flour; **Indianapolis**, grain, meat and flour; **Allegheny**, steel, iron and leather; **Richmond**, tobacco, flour and iron goods; **Memphis**, cotton; **Wilmington** (Del.), steamships and iron goods; **Grand Rapids**, furniture; **Charleston** and **Savannah**, cotton and turpentine; **Duluth**, wheat; **Galveston**, cotton.

¹ Most teachers will doubtless omit from the primary course the study of this list. It is placed here for reference.

140. Alaska.

MAP STUDIES. Where is Alaska? To what country does it belong? *See text on page 86.* What two oceans and sea partly surround Alaska? What country is on the east?

What does the map on page 36 show about the surface of Alaska? What long river flows across this territory? Locate the Pribilof islands; Bering strait; Aleutian islands; Mt. St. Elias; Mt. Logan.

In which heat belts is Alaska? *See page 77.* Describe the seasons in these belts.

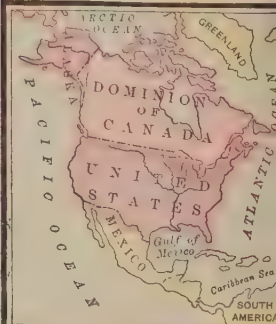
ALASKA. This territory in the far north is about one sixth as large as the rest of the United States, but only a small part is warm enough for settlers. Most of the people are Indians; the others are white men and Eskimos. *See lesson 90.* The best climate is found along the south-west shore, where mild winds blow inland from over the Pacific ocean.



Sitka, Alaska.

The rivers and shore waters yield many salmon. Fur seals are taken on the Pribilof islands. Gold is found in the region round Juneau, also in the upper Yukon valley, and in some other parts. The famous Klondike region is east of Alaska, in British territory.

Sitka is the capital of Alaska. The United States paid Russia \$7,200,000 for Alaska.





141. Canada and Newfoundland.

MAP STUDIES. What oceans partly bound Canada? What country is on the south? Which of the Great Lakes border on Canada? What large bay indents the north coast? What gulf is on the east? Locate Baffin bay; Hudson strait; Davis strait; bay of Fundy; Vancouver island; Queen Charlotte's island.

What does the relief map on page 36 show about the surface of Canada? Compare with the surface of the United States. Name two mountain chains in British Columbia.

Name three large lakes that have an outlet to the sea by way of the Mackenzie river. Into what does the Peace river flow? Where is lake Winnipeg? What large river enters it from the west? From the south? *See colored map of United States.*

NOTE: — Canada consists of *provinces* and *districts*. The provinces are Nova Scotia, Prince Edward island, New Brunswick, Quebec, Ontario, Manitoba and British Columbia; the other parts, compris-

ing even the cold Arctic regions, are divided into districts. Newfoundland, including the district of Labrador, is not a part of Canada, but all belong to Great Britain. The great islands of Greenland and Iceland belong to Denmark, a country in Europe.

What province lies north of the Great Lakes? Through which does the St. Lawrence river flow? Which province borders on the Pacific ocean? Locate Nova Scotia; Newfoundland. Between what provinces is the bay of Fundy? Where is the Klondike region? What great river drains this region?

What have you learned about the seasons and products of Canada?

Canada is almost as large as the United States, and the two countries resemble each other in surface features. Both have high mountains in the west, low mountains in the east, with great plains and prairies lying between. Both also border on the Great Lakes.

Several of the large rivers of Canada flow into the cold north region, but the St. Lawrence affords a fine water way. Steamers from the sea can ascend 1000 miles to Montreal.

The portion of the provinces of Quebec and Ontario lying along lakes Huron, Erie and Ontario and reaching down the river to the city of Quebec has great soft-wood forests, pastures and grainfields. The province of Manitoba is famous for its wheat.

Canada exports wheat, lumber and cattle. Many fish are caught on the Grand banks south

water that border on Mexico. What peninsula forms the northwest part of this country? The southeast part? What does the relief map on page 36 show about the surface of Mexico? Locate the Sierra Madre; the volcano of Popocatepetl.

In what heat belts is Mexico? *See page 77.* What kind of seasons has it? Name some of the products of these belts.

The five small countries of Guatemala, Salvador, Honduras, Nicaragua and Costa Rica form Central America; between what sea and ocean do they lie? Where is lake Nicaragua?

Which is the largest island of the West Indies? Next in size? What ocean, gulf and sea are on three



of Newfoundland, and are sent to other countries. The chief cities in the two great provinces of Quebec and Ontario are Montreal and Quebec, on the St. Lawrence river, and Toronto, on lake Ontario. Ottawa is the capital of Canada. Halifax and St. John's send many cod-fish to our country. The leading city in British Columbia is Victoria, on Vancouver island. Klondike is a gold-bearing region in the upper Yukon basin. It is so far north and so shut off from the sea by mountains that the climate is very severe. Dawson City is in the heart of the mining region. *See map on page 104.*

142. Mexico, Central America, West Indies.

MAP STUDIES. Between what two countries does the Rio Grande flow? Name the large bodies of

sides of the West Indies? Where are the Bahama islands? Where is Puerto Rico? Jamaica?

MEXICO. During the summer, moist winds blow inland over Mexico, from the gulf on the east. These give rainfall to the greater part of the plateau and its eastern slope. The region west of the Sierra Madre is dry and barren. It is too far south to be reached by the westerly winds of the cool belt.

Many cattle are raised in Mexico. The mountains yield large quantities of silver ore. The narrow coastal plains on the east are low and unhealthful.

Mexico, the capital, is in the plateau far above the level of the sea. Vera Cruz, the chief port, is on the low sandy plain.

A large part of the foreign trade of Mexico is with the United States.

CENTRAL AMERICA.

The small countries of Central America are so near the equator that they have hot or warm days all the year. They produce coffee, fruits and rubber (a gum of certain trees).

The white people here, as in Mexico, are mostly of Spanish descent, but there are far more Indians than white men.

WEST INDIES. The West Indies are the islands that partly inclose the gulf of Mexico and the Caribbean sea. Among their leading products are sugar, tobacco and coffee.

Cuba is the largest island. *See Supplement.*



Havana, the chief sea-port in the West Indies, is a great sugar and tobacco market.

The island of Haiti contains two small countries, Haiti and Santo Domingo. The western half of the island is settled chiefly by Negroes; the eastern half is settled by white people and Negroes.

Jamaica and the Bahama islands belong to Great Britain. There are many Negroes, as well as British settlers, on the islands.

In 1898 the United States gained control of Puerto Rico.¹

¹ For Cuba and Puerto Rico see Supplement.



143. Countries and Cities.

MAP STUDIES. What oceans border on Europe? Name three large seas on the south; one on the north. Name five large natural features that lie between Europe and Asia. What three continents surround the Mediterranean sea? What is the outlet of this sea called?



A Norwegian.

Review lessons 73 to 78.

Almost all the people of Europe belong to the white race. In the extreme north and in some other parts are some people of the yellow race. *See lesson 87; also lesson 89.*

BRITISH ISLES. In the British Isles are vast beds of coal and iron. Near these many great workshops have been built.

The people of the British Isles weave into cloth fully one third of the raw cotton and wool raised in the world. They also manufacture nearly one third of the iron and steel. Their ships carry on one third of the ocean commerce.

The United States sends to the British Isles cotton, grain, meat, tobacco, copper and many other products.

The British Isles send to the United States iron and steel goods, cotton and woolen cloth, tin and tin-plate, silk and many other articles from the workshop.

Which half of Europe consists largely of highlands? Of plains? *See page 46.* What countries are partly bounded by the Pyrenees? By the Caucasus and Ural mountains? By the Alps? By the Kiolen mountains? By the Karpathian mountains?

What countries border on the North sea? Baltic sea? Gulf of Bothnia?

Bay of Biscay? Adriatic sea? Ægean sea? What great seas partly bound Russia? Where is the Irish sea? The strait of Dover? The strait of Gibraltar? *See lesson 75.*

Where does the Volga river rise? Into what sea does it flow? In what general direction does the Danube river flow and into what sea?

Where is the Seine river? The Thames? The Po? The Dnieper? The Rhine? The Rhone? The Elbe? *See map on page 113.*

What heat belts cross Europe? *See page 77.* What effect do the winds from over the Gulf stream produce over western Europe? *See page 78.* Which part of Europe is in the warm belt?



A German.



Scotch Piper.



A Scene near Venice.



Grazing Scene in Holland.

London, on the Thames river, is the capital of the British Empire. It is the chief seaport and railroad center of the British Isles and is the largest city in the world.



Peat Moss.

Piling Peat.

Top of Mt. Snowdon.

The greater part of the trade of the United States with England is by way of **Liverpool**, a large port on the Mersey river. London, Liverpool and New York have the largest ocean trade of any three cities in the world.

Among the other great cities of England are **Manchester**, having the largest cotton mills in the world; **Birmingham** and **Sheffield**, noted for all kinds of iron goods; **Bradford**, well known for its woolen goods.



Scotland is noted for its iron and steel ships. They are built along the river Clyde, near **Glasgow**.

Edinburgh is the capital of Scotland.

The mountainous country of **Wales**, west of England, has rich mines of coal and iron. **Cardiff** has a large trade in these products.

Dublin is the capital of Ireland and the center of trade for the middle portion of the island. **Belfast** is noted for its fine linens, made from Irish flax.

Among the most important British possessions are: Canada,

Australia, India, New Zealand, Cape Colony and other large areas in Africa.



Caledonian Canal.

FRANCE.

Only two cities in the world, London and New York, are larger than **Paris**.

This city is the capital

and center of trade of France. It is noted for its galleries of art, — both painting and sculpture.

The United States sends to Paris about the same kinds of goods as to the British Isles. France sends to the United States woolen and silk goods, wines and millinery.

Havre, at the mouth of the Seine river, is the port of Paris.

Lyons, on the Rhone river, is noted for its silks.





Marseille, on the Mediterranean coast, is the principal port of France.

GERMANY. Germany has large mines of iron and coal. Like Great Britain, it is a land of busy mills and workshops.

Hamburg is the chief seaport on the mainland of Europe. **Berlin**, the capital of Germany, is the center of great railway and canal systems. Its inland trade is very large.

The trade of the United States with Germany is in about the same kinds of goods as with the British Isles, but the trade with the latter is much the greater.

Leipzig is well known as a book-publishing city. **Munich** and **Dresden** have many famous paintings and statues in their art galleries.

BELGIUM. This small country has coal mines and good farm lands.

Antwerp and **Brussels** are the principal cities. The latter is the capital and is noted for carpets and fine laces.

The rich islands of Java and Sumatra, southeast of Asia, belong to Holland. They produce tobacco, coffee and spices.

Amsterdam and **Rotterdam** are great ports in Holland. **The Hague** is the capital.

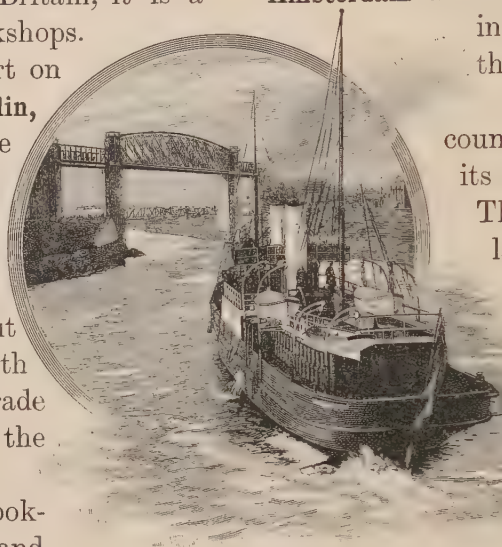
DENMARK. This small country resembles Holland in its home products.

The large islands of Greenland and Iceland belong to Denmark. A few hundred Eskimos and Danes live along the southwest coast of Greenland, but the interior of the island is buried under

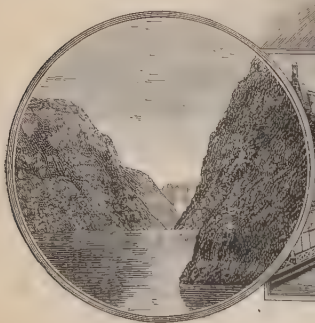
ice and snow, thousands of feet in thickness.

Iceland is not so cold as Greenland, but the climate is too cold for grain. The people of Iceland export fish, wool and eider down.

Copenhagen is the capital and chief



Ship Canal, Mersey River to Manchester.



Norway Fiord. NETHERLANDS OR HOLLAND.

Holland lies mostly in the Rhine delta lands, and is very fertile. Large quantities of dairy products are shipped to other countries. See *lesson 93*.



city of Denmark.

NORWAY

and **SWEDEN.** The Scandinavian peninsula, composed of Norway and Sweden, is famous for the beauty of its deep bays or *fjords*, mountains, falls and lakes.



The forests of the peninsula yield much lumber; the open plains of the southeast supply wheat and other grains; food-fish abound along the west coast.



A Russian Village near the Ural Mountains.

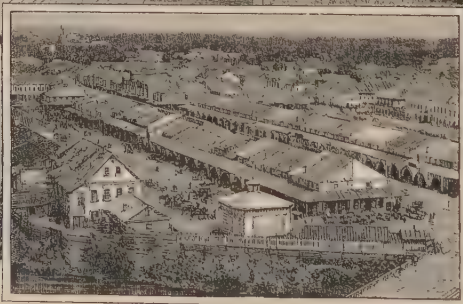
Stockholm is the capital and principal city of Sweden. **Gottenborg** is the chief port.

Christiania is the capital and largest city of Norway. **Bergen** is the largest city on the west coast.

RUSSIA. Russia occupies more than half of Europe. It also controls Siberia, in northern Asia, and many smaller states. *For Russian possessions in Asia, see text on page 122.*



Church in Moscow.



Town near St. Petersburg.

canals. Among its best natural highways of trade are the long Volga and Dnieper rivers and the great seas on its borders.

St. Petersburg is the chief city and the capital. It is built mainly on delta islands in the Neva river. Only two cities in America are larger than St. Petersburg.

Moscow is the center of trade of a large area, because it is a great railroad city. An old fortress, or *Kremlin*, incloses many famous buildings in Moscow.

Warsaw is a railroad center and the principal city of southwest Russia.

Odessa is a great grain port on the Black sea. **AUSTRIA-HUNGARY.** In this country are the fertile plains of the middle Danube basin. They produce grain, sugar beets and grapes. Many cattle also graze here. The highlands round the valley are rich in gold, iron and other minerals.

Vienna, on the Danube river, is the capital and chief city. It is noted for its beautiful



Plowing in Southern Russia.

buildings. **Budapest**, also on the Danube, is the second city in size.

SWITZERLAND. This country is famous for the beauty of its mountains, lakes and waterfalls. **Zurich** is the largest city. **Geneva** is noted for its watches and music boxes. **Bern** is the capital of Switzerland.

This great empire has immense grainfields, forests, gold mines, petroleum wells, fur regions and grazing tracts. It has many railroads and a network of



Shore of the Sea of Marmora.

TURKEY and GREECE. Our country has very little trade with either Turkey, Greece or any of the small neighboring states, such as Roumelia, Roumania, Servia and Montenegro.

Constantinople, on the strait of Bosphorus, is the capital of Turkey.

Athens is the capital of Greece. This was one of the most famous cities of ancient times, and contains ruins of many beautiful temples.

ITALY. The valley of the Po river is very level and fertile. Grain grows abundantly, and cattle find excellent pasturage. The foothills round the plains are covered with vineyards.

The slopes on the southwest side of the Apennines have a warm climate, and are suited to the growth of oranges, lemons, grapes and other fruits.

Naples, on the bay of Naples, is the largest port of Italy.



Turkish Officer.

Near the city is the famous volcano of Vesuvius. **Genoa**, a northern port, was the birth-place of Columbus. ▽

Venice is the chief port on the Adriatic sea. This city is built on a group of islands, and

canals partly take the place of streets.

Rome, the capital, was the most famous city of ancient times. Many of the ruins of old temples and other buildings may still be seen.

St. Peter's and the Vatican are both in Rome. The former is the largest church in the world; the latter is the home of the Pope,



St. Peter's and St. Angelo.

and contains many fine paintings, statues and other works of art.

Milan is the center of trade in the Po valley. **Florence** is one of the great art centers of the world.

SPAIN and PORTUGAL. These two countries form the Spanish peninsula. It consists mainly of a dreary upland, but the lands in the river valleys and round the coast are very



Boy of Roumania.



its greatest highland, Pacific slope, Atlantic slope, eastern highlands, three large river basins. Locate the highland of Brazil; of Guiana. Where are the pampas? The llanos? The selvas? Which of these three plains is drained by the Amazon river? Orinoco river? Plata river?

Name a large branch joining the Amazon from the north; one from the south. Name the largest river flowing into the broad Plata. Where is the Magdalena river? The San (or São) Francisco river? Lake Titicaca? Strait of Magellan?

What three heat belts cross South America? See page 77. What, then, can you say of the seasons in the northern part? Middle part? Southern part? In the Andes highland (see lesson 25)?

What countries of South America border on the Pacific ocean? On the Atlantic ocean? Through which does the Andes highland extend? Which are crossed by the equator? Which border on Brazil? Which country contains the larger part of the selvas? The llanos? The pampas? What two countries are separated by the Andes?

NOTE:—Review lessons 51, 53, 54, 55, 56 and 101.

Most of the white people of South America are of Spanish or of Portuguese descent. They have built their towns and cities chiefly along the coasts.

There are several millions of Indians of low grade living in the interior of South America. The Indians of the Andes countries are more intelligent.

There are many Negroes in South America, mostly former slaves or their descendants.

BRAZIL. This great country is mostly in the hot belt. The large rivers show that it has plenty of rainfall. Coffee, sugar cane and tobacco thrive. Many cattle graze on the slopes of southern Brazil. India rubber trees grow on the hot and moist banks of

fertile. Grains thrive, but the most valuable crops come from the vineyards and orange groves. Wine and fruit are sent to other countries. Madrid, the capital, is in the upland.

Barcelona is the leading port. Lisbon is the capital of Portugal and the chief city.

SOUTH AMERICA.

144. Countries and Cities.

MAP STUDIES. Bound South America. Refer to the map on page 32 and describe the surface of this land mass,—

the Amazon. Rubber is made from their sap. Brazil trades largely with the United States, and buys cloth, machines, tools and hardware. In return it sends us coffee, rubber and sugar.



Indians of Southern Chile.

Rio de Janeiro, the capital, is the chief port in the coffee trade. **Para** is a market for rubber.

ARGENTINA. Millions of cattle, sheep and horses graze on the pampas of Argentina. Hides, wool and beef are articles of trade. Wheat and corn are among the principal products of the farms.

The imports of this country are cloth and railway supplies, — engines, rails and wire. The trade with the United States is small.

Buenos Ayres, the capital, is the leading port for the products of the Plata basin.

CHILE. The wealth of Chile is in its mines and farms. The most valuable products are niter, copper, silver and wheat. The imports of Chile include cloth, beef and sugar. The trade with the United States is very light.

Valparaiso is the chief port of Chile. **Santiago**, the capital, is in the healthful uplands. **URUGUAY** and **PARAGUAY.** These two small countries lie mostly in the basin sloping to the broad Plata mouth. They have good grazing lands. **Montevideo** is an important seaport of Uruguay.

BOLIVIA. This inland country has famous silver mines. In its forests are many rubber trees. **La Paz** is the largest city. **Sucre** is the capital.

PERU. Many alpacas and sheep are raised in the high plateaus of this country. *See page 76.* Much of the wool of these animals is sent abroad. There are rich mines in the mountains.

Lima is the capital and chief city of Peru. Like the other Andean capitals, it is in the highlands. Its port is **Callao**.

ECUADOR. This is another mining country crossed by the Andes. **Quito**, the capital, is in the highlands. **Guayaquil** is its seaport.

COLOMBIA. Large quantities of coffee are raised in this country.

Bogota, the capital, is high up among the Andes, where the people are safe from the fevers of the low coast. **Panama** is a port at the southern end of a railroad that crosses the

isthmus of Panama.

VENEZUELA. This country, like its neighbor on the west, produces coffee. Many cattle are raised in the llanos or plains of the Orinoco. Coffee and hides are leading exports. **Caracas** is the capital and principal city.



GUIANAS. The three Guianas are held by the British, Dutch and French. Gold is found in the highland and sugar cane is raised in the lowland. The capitals — **Georgetown, Paramaribo** and **Cayenne** — are the chief cities.

ASIA.

145. Countries and Cities.

INDIA. India is not quite one half so large as our country, but it has four times as many people. The Ganges river floats large boats a thousand miles through its fertile valley. Rice is the food of fully one third of the people living in this valley.

India has a hot climate and raises large crops of rice, cotton,



Woman of India.



Benares on the Ganges.



Himalaya Mts.



Natives of Ceylon.

led in canals over the plain. Many large cities have here been built.

wheat, poppy and many other plants. The poppy plant yields a drug called *opium*. A large portion of these products is sent to England, because the British control the country. India imports cloth, machines, hardware, sugar and many other kinds of goods.

Calcutta, the capital, and **Bombay** are the leading ports of India. The former is in the Ganges delta. **Madras** is a large port on the southeast coast.

Most of the people of India are *Hindus* (or *Hindoos*). They belong to the white race.

The island of Ceylon, near the southeast coast of India, belongs to Great Britain. Tea and spices thrive on the island.

CHINA. From the lofty plateau of Tibet the great empire of China spreads like a huge fan eastward to the Pacific ocean. Its area is greater than that of the United States. Its people belong to the yellow race.

The largest delta in the world stretches along the coast around and between the mouths of the Hoangho and Yangtze rivers. The delta soil is fertile and water is easily

No other region on the earth is so thickly peopled.

The Hoangho or Yellow river is swift, except in the lower part of its delta, but the Yangtze river is open to ocean steamers for a thousand miles.

The leading products of China are tea and silk. The chief imports are cotton cloth and opium.

The trade of China with other nations is carried on mainly through **Hongkong**, a British island near the southeast coast. **Shanghai** and **Canton** are other great ports. **Pekin** is the capital.

JAPAN. Japan has made more progress than any other country in Asia. It has good schools. Its cities have great mills and factories.

The principal products of Japan are tea, silk and rice. Silk weaving and ivory carving are carried on with great skill. *See the*

text on pages 57 to 59.

Tokyo is the capital and largest city of Japan. **Yoko-**



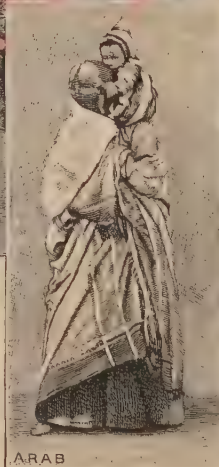
SIBERIAN HOUSE



MONGOLIAN HUT.



SYRIAN



ARAB



HINDOOS



CHINAMAN

Yokohama is the chief port. The Japanese belong to the yellow race.

(Continued on page 122.)

MAP STUDIES. What oceans are on three sides of Asia? What grand divisions are west of it?

Which part of Asia is the most mountainous? *See page 42.* What great country lies between the central mountain mass and the Arctic coast? What empire includes the lofty plateau of Tibet and the long slopes stretching east and northeast to the sea? Name the country lying between Tibet and the Indian ocean. What countries are in part separated by the Himalaya mountains? Where are Anam and Siam?

Locate Mt. Everest; Mt. Ararat; volcano of Fujiyama; Altai mountains; Khingan mountains;

Hindu Kush mountains; Pamir plateau; Kuenlun mountains.

What sea is on the north of Persia? What gulf is on the southwest? Name the two countries lying between Persia and India.

What large bodies of water form part of the boundary of Turkey in Asia? What great country (besides Turkey) occupies a large part of the peninsula between the Red sea and the Persian gulf?

Name the seas that partly surround the peninsula of Kamchatka? Of Korea? Of Farther India? Of India? Of Arabia? Of Asia Minor?

What island empire extends from Formosa almost to Kamchatka? What sea is west of the largest Japanese island? Where is Ceylon? Cyprus? Sumatra? Borneo? Where are the Philippine islands?

Locate the Malay peninsula; lake Baikal; sea of Aral; desert of Gobi.

What two rivers unite and flow into the Persian gulf? Name three large rivers that flow northward across the plain of Siberia.

Into what sea does

the Amur river flow? What two great rivers flow eastward through China? In what mountains do the Indus and Ganges rivers rise, and into what sea and bay do they flow? Where is the Ural river?

Which part of Asia is in the hot belt? In the warm belt? In the cool belt? In the cold belt?

The name "Farther India" is given to the great peninsula which embraces Anam, Siam and Burma.

The peninsula of Turkey south of the Black sea is often called "Asia Minor," meaning "Lesser Asia."



SIAM and ANAM. The products of these countries are like those of British India, but the land is poorly tilled and yields little compared with the ley. Siam has own, but Anam control of the Bangkok



Ganges valley a king of its is under the French. is the capital of Siam; Hué of Anam.

the long winter; during the few weeks of summer the marshy lands thaw for a few inches beneath the surface and flowers spring up and blossom.

On the south of this frozen belt lie great forests in which many fur-bearing animals live. Still farther south are grain lands and grazing tracts. The Ural mountains have rich gold mines.

Tashkend is the largest Russian city in Asia.

Tiflis is next in size. A railroad running through the latter city carries great quantities of petroleum from Baku, on



A Georgian of Tiflis.



Petroleum Wells near Baku.

The natives of these countries belong to the yellow race.

KOREA. Korea has little to do with foreign countries. Its trade is mostly with the Japanese. Seoul is the capital and principal city.



Children of Korea.

ASIATIC RUSSIA. Siberia and the district along the south side of the Caucasus mountains belong to Russia. Other small states between

the Caspian sea, to Batum, on the Black sea. See page 109. Thence it is shipped to other ports. The oil wells near Baku are the richest in the world.

Irkutsk is a center of trade for central Siberia. A railroad is being built east-and-west across this great country, to connect Russia in Europe with the Pacific coast. This road will greatly increase overland trade with Russia.

AFGHANISTAN and BALUCHISTAN are small countries on the west of India. The lands are rugged and many of the people are shepherds. Afghanistan is crossed by caravan routes leading from southwest Asia into India. Kabul is a trade center.

The natives of these two countries, and of the other countries of southwest Asia, belong



Armenian.



Caucasus Natives.

to the white race, though most of them are dark-skinned.

PERSIA. This country is chiefly a plateau region. Many sheep are raised here. Dates grow on the lands along the coast.



Man of Sumatra.

The home-made rugs and carpets of Persia are well known. **Teheran** is the capital.

ARABIA. Arabia is largely a desert country, but some parts are fertile. There the date palm thrives, and camels and horses are raised. *See lesson 92.*

The Red sea coast of the Arabian peninsula belongs to Turkey. The inland portions of Arabia are not well known.

ASIATIC TURKEY. The coast lands of Asia Minor produce fruits, such as olives, figs, grapes. The uplands form good pastures.

Smyrna is the largest port of Asiatic Turkey. It exports fruits, rugs and carpets. This is a very old city and was famous in ancient times.

Along the eastern end of the Mediterranean sea is Palestine, the most famous country in Bible history. It is now a part of Turkey.

In this ancient country is found the well-known city of **Jerusalem**. A little east of this city is the *Dead Sea*. Its water is ten times as salt as that in the ocean. The sea

is about fifty miles long and its surface is one fourth of a mile below sea level.

Northward from Jerusalem is another very old city called **Damascus**. Many caravans start from this city, going to places farther inland.

One of the most fertile parts of Turkey is the valley of the Tigris and Euphrates rivers, sloping down to the Persian gulf. Ages ago this valley was like a great garden or grainfield, and in its midst were large cities. Fine canals or ditches were made to lead the river water over the land, as is now done in Egypt; but most of the ditches are in ruins and the crops are scanty.



Man of Borneo.

Along the southern part of the Red sea coast great quantities of excellent coffee are raised. **Mocha** is a famous coffee port.

EAST INDIES. Sumatra, Java, Celebes and most of Borneo belong to Holland, and are known as the *Dutch East Indies*. *See map on page 129.* The British hold northwest Borneo. The Philippines belong to the United States.

The islands of the East Indies are under or not far from the equator and have hot and moist weather nearly all the year. The soil is very fertile and produces



Village on the Mekong River.

sugar cane, rice, coffee, tea and spices.

Most of the natives of these islands, and of those farther east, belong to the brown race. In Java alone there are one third as many people as in our own country. *See lesson 88*

Singapore, on an island near the end of the Malay peninsula, carries on a large part of the trade of the East Indies. **Batavia** (see page 129) is the chief city of Java. **Manila** is the port of the Philippine islands.

large island is southeast of Africa? (Where are the Canary islands?) Madeira islands? Where is St. Helena?



Village in the Philippine Islands.

AFRICA.

146. Countries and Cities.

MAP STUDIES. On which side of the equator is the larger part of Africa? What great river valley of South America is due west of the Kongo river valley? What ocean is between these two grand divisions?

What sea is between Africa and Europe? Africa and Asia? What have you learned about the isthmus of Suez?

Which part of Africa is the most mountainous? See page 50. Describe the desert of Sahara. See lesson 82. Locate the highland of Abyssinia; the Atlas mountains; Snow mountains; Kalahari desert.



Bedouins.

What have you learned about the Nile? See lesson 81. Describe the Kongo basin. See lesson 83. Into what body of water does the Niger river flow? The Zambezi river? The Orange river?

Locate lake Tchad; lake Tanganyika; Victoria Nyanza (or lake Victoria). What

Through what country does the lower Nile flow? In what mountainous country does the Blue Nile rise? Name the Mediterranean country next west of Egypt. On what waters does Morocco border? Where are Algeria and Tunis?

What name is given to the region lying along the south side of the desert of Sahara? Where is Liberia? Upper Guinea? Lower Guinea? What country or state occupies the greater part of the valley of the Kongo?

Where is Cape Colony? Orange Free State? Transvaal?

Name four nations of Europe that claim large parts of Africa.

In which heat belt is middle Africa? Northern Africa? Southern Africa?

Not many years have passed since a white man first crossed middle Africa. Since then much has been learned about the continent.

Not one of the large rivers of middle or southern Africa is open to vessels from the sea; all are blocked by falls or rapids.

The low coast lands of this continent, for hundreds of miles on either side of the equator, are very unhealthy. The desert of Sahara makes travel from the north difficult.

For these and other reasons, large portions of Africa are still little known.



Buffalo of Egypt.

The native people in the countries on the north of the Sahara desert belong to the dark branch of the white race. Those in the lands south of the desert include the true Negroes and other tribes of the black race. *See lesson 86.* Many white people from the leading countries of Europe have settled along the coasts of nearly all parts of Africa.

EGYPT. The spring harvest in Egypt consists largely of grains. The autumn harvest includes cotton, sugar and rice. This country sells raw cotton and buys cloth. There is also a light trade in many other articles. Nearly all the trade is with England.



Negro.

fall and is thinly settled. The Atlas mountains cause heavier rainfall in Morocco, and the grassy slopes afford pasturage for many cattle and sheep. Wheat thrives in the small

river valleys. **Morocco**, the capital, and **Fez** are the chief cities.

ALGERIA and TUNIS. These states and a great area stretching southwest to the Atlantic ocean belong



Arab Praying in the Desert.



Arabs of Cairo.

to France. **Algeria** and **Tunis** have products like those of **Morocco**. **Tunis and Algiers** are the largest cities.

SUDAN. This name is given to the group of states lying along the south side of the Sahara desert. Most of the people belong to the black race, but they are not all savages. Some live in large towns and carry on trade with the northern countries. Caravans go back and forth across the great desert. They carry the ivory tusks of elephants,



Woman of Egypt.

ostrich feathers and various gums. Camels and horses also are raised for market.

LIBERIA. This is a small country settled chiefly by freed slaves from the United States.

Monrovia is the capital.

ABYSSINIA. This highland country has fought back the soldiers of Italy sent to subdue it, and is still ruled by its native king. The natives have little to do with the outside world.

The yearly overflow of the Nile is caused largely by the rainfall in the mountains of Abyssinia.

KONGO STATE. This state includes the greater portion of the valley of the Kongo river. It extends from the lakes of central Africa to the Atlantic ocean.

White people have trading stations on the lower Kongo and buy from the natives coffee, ivory tusks and palm oil. **Boma** is the local capital, but the king of the Belgians is the ruler.

CAPE COLONY. This is a very valuable British colony. Its diamond mines are the richest in the world.



Cape Town.

Many cattle, sheep and ostriches are raised on the ranches. Three fourths of the people belong to the black race, but the white

people forming the other fourth rule the land. **Cape Town** is the capital and chief port. The richest diamond mines are at **Kimberley**, an inland town.

TRANSVAAL. The Transvaal gold mines are among the richest in the world. The native black people are called *Kaffirs*. The early white settlers in this state were Dutch, here known as *Boers*.

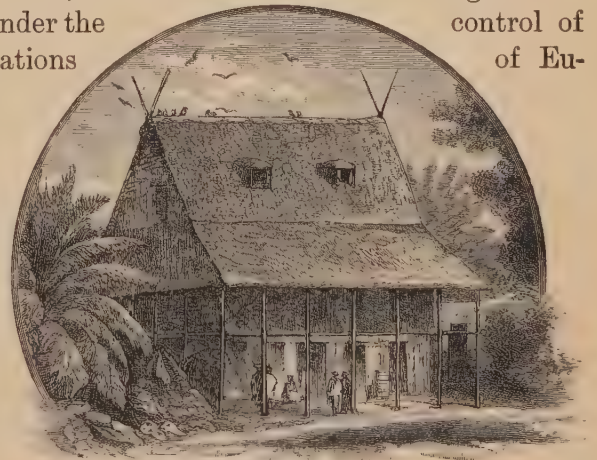
There are also many settlers from other white nations. **Pretoria** is the capital.

Johannesburg, the principal city near the gold region, has had very rapid growth.

There are several other small states in Africa; also large areas under the control of European nations.



Guinea Negeress.



House in Madagascar.

rope. Among the other large cities not named above are **Tananarivo**, on the island of Madagascar, and **Zanzibar**, on a small island near the east coast of Africa. The French are trying to control Madagascar.

AUSTRALASIA.

147. Colonies of Australia.

The great island or continent of Australia is now divided into several British colonies. The most prosperous cities are in the south-east, where the high Alps cause quite heavy rainfall.

Many years ago, when white men first went to Australia, they found the land settled

produce wool worth three times as much as the gold taken from its mines.

The region raises many cattle and a large amount of wheat. The principal exports are wool, gold, wheat and cattle.

The leading imports are iron goods, cloth, sugar and tea. A great deal of wool from other colonies finds a market here. Most of it is sold again abroad. Nearly all the foreign trade of Australia is carried on with England.

Melbourne is the chief



by black people. These natives were savages of a low grade. Several thousand of their descendants still live in the interior.

Most of the white settlers of Australia went from England. The British also settled Tasmania and the islands of New Zealand. The latter once belonged to the brown people, here called *Maoris*, and many *Maoris* still live in the North island of the group. Most of the Pacific islands are peopled by the Malay or brown race, but a few savage black people are found in some of them. New Guinea is still held by black savages, though white people have settled in some trading towns along the coast.

Victoria and New South Wales are the leading colonies of Australia.

The gold mines of Victoria take rank with those of the United States and southern Africa. The sheep ranches of this colony

port of Australia. It is on a fine harbor and is about as large as Boston. New South Wales produces much more wool but less gold than Victoria.

The trade of these two colonies is nearly alike in kind. **Sydney** is the leading port of New South Wales. Queensland has good grazing lands. Western and South Australia are dry and thinly settled.

148. Pacific Islands.

The islands of New Zealand belong to the British. They have rich gold mines and afford grazing for many cattle and sheep. Gold, wool and meats are the chief exports.

Auckland is the largest city.

The great island of New Guinea is much larger than Texas, but it has fewer people than Philadelphia. There are fertile lands in

Among the volcanic islands are most of the Fiji, Samoa and Hawaiian islands. Nearly all of the natives on the small islands of the Pacific belong to the brown race.



Honolulu, Hawaiian Islands.

the island, but its black people are savages, and do not make much use of the rich soil.

There are many low coral islands in the Pacific. Some are long *reefs*, others rings or *atolls*.

The savages of the coral islands live chiefly on breadfruit and fish.

Other islands are high and are made by volcanoes. Coral reefs often surround the volcanic islands.

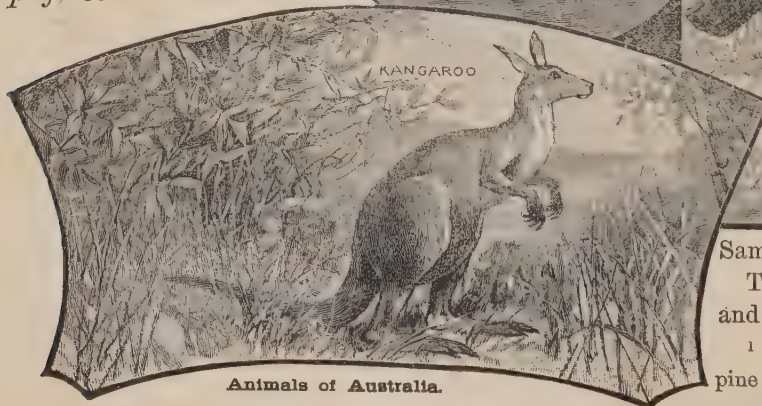
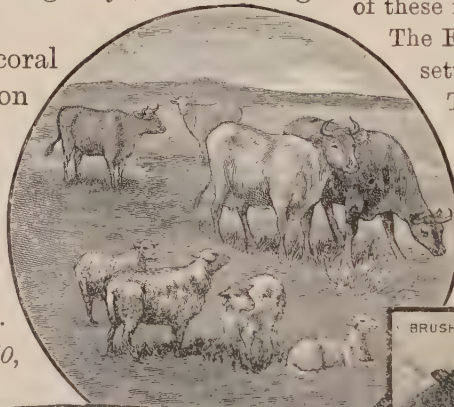
See lessons 49 and 50, page 30.

Honolulu is the chief city. In 1898 the Hawaiian islands were annexed to the United States.¹

The Fiji group has about 300 small islands. Most of these rise as volcanoes from the bed of the ocean. The Fijians are savages. A few white men have settled on some of the islands.

The Tonga islands are southeast of the Fiji group. White people have taught many of the Tonga natives how to read and they have given up most of their savage customs.

Northeast of the Fiji group lie the Samoa islands. Apia is the chief town. The



Animals of Australia.



Samoaans are very skillful in the use of canoes.

The small islands of the Caroline, Marshall and Gilbert groups are mostly coral.

¹ For full text about the Hawaiian and Philippine islands, see Supplement following.

SPECIAL SUPPLEMENT.

CUBA, PUERTO RICO, HAWAII, PHILIPPINES,
GUAM.

THE West Indies are a long chain of islands separating the Atlantic ocean from the gulf of



Morro Castle; Entrance to Havana Harbor.

Mexico and the Caribbean sea. The most important of these islands are Cuba, Haiti, Puerto Rico and Jamaica; the latter belongs to Great Britain; Haiti contains two small republics. The island of Puerto Rico was ceded to the United States at the close of the recent war with Spain; at the same time Cuba came under our protection.

CUBA. Cuba, the "Queen of the Antilles," is the largest island of the West Indies. Its length is about 750 miles; its area is 43,000 miles—almost as large as Pennsylvania, or nearly nine times as large as Connecticut.

Cuba may be roughly divided into three regions—mountainous in the east, hilly in the middle, level in the west. There are many fertile valleys along the coasts and among the hills. Broad fields occupy the greater part of southwest Cuba and afford the best farming lands. The rivers of Cuba are numerous but small.

The coast of this island is fringed with coral reefs, rocks and bars; but there are also many fine harbors. Among these is Havana harbor.

Cuba is in the hot belt and has a rainy season during the hottest part of the year. The low-

lands are then unhealthy; but the uplands have a better climate. "Winter," or the dry season, is the pleasant part of the year.

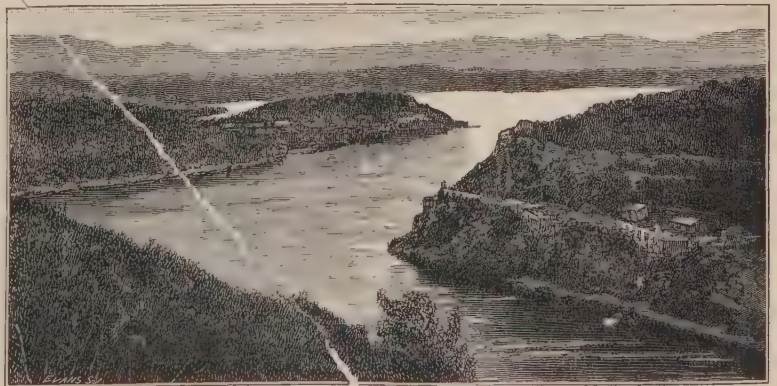
Tropical plant life thrives in the island and runs wild over most of the highlands. The hill slopes produce coffee; sugar and tobacco abound in the valleys and plains. Fruits grow in abundance in all parts of the island.

There are few large animals in Cuba, except the domestic kinds; but birds are plentiful, and fish and turtles are caught in great numbers.

The early explorers found in Cuba about a million peaceful Indians; but under Spanish rule the red race there died out. Many African Negroes were taken to Cuba

as slaves. They are now free and form fully one third of the population, which at present numbers perhaps over 1,500,000. The other two thirds include the white people, the mixed races, and several thousand coolies, or laborers from China and the East Indies.

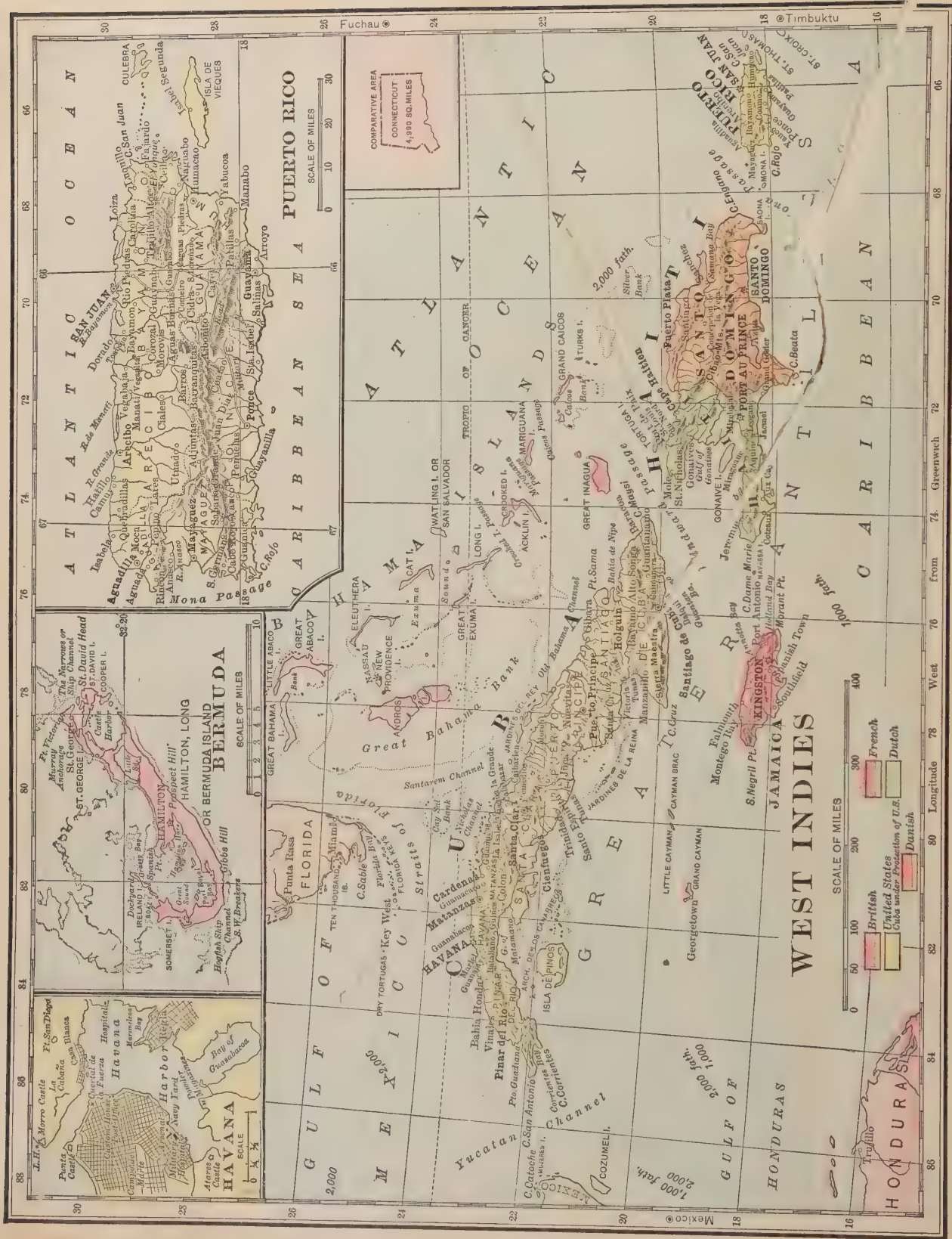
Havana is the capital and largest city. It contains one eighth of the people of the island. This



Entrance to Santiago Harbor.

is also the railroad center and chief port. The principal exports are sugar, tobacco and coffee. Most of the exports go to the United States.

Santiago is the second largest city in Cuba and is the leading port of the eastern province



There are several other large ports on fine harbors.

PUERTO RICO. Puerto Rico¹ has in general the shape of a rectangle. It is about 90 miles

as many people as Cuba. This fact shows that the former island is the better cultivated. The total is between 800,000 and 900,000 people; one third of these are Negroes, mostly descendants of former slaves.



Cutting Sugar Cane, Puerto Rico.

long and 36 miles broad, with an area about three fourths as great as Connecticut.

The inland regions are mostly hilly, with wooded ridges running east and west, sending small rivers to the seacoast on all sides. A broad belt of coastal lands consists of level tracts broken here and there by uneven ridgy areas.

Puerto Rico, like Cuba, is in the hot belt and has the same wet and dry seasons; but the former is noted for its healthful climate in contrast with other islands of the West Indies. The river valleys and coast plains are very fertile and contain most of the cities and towns. By far the most valuable product is coffee, which thrives on the hillsides. Next in value is sugar; molasses and tobacco are valuable exports.

The small island of Puerto Rico contains half

¹ The name *Porto Rico* is often used. This is a corrupt form of the Spanish name *Puerto Rico*, meaning *rich port*. The United States Board on Geographic Names has ruled that the correct form is *Puerto Rico*.

many rocky islets. The total area is about 6500 square miles. The whole group is often called *Hawaii*, and there is also one large island of the same name.

The islands are of volcanic origin and are built

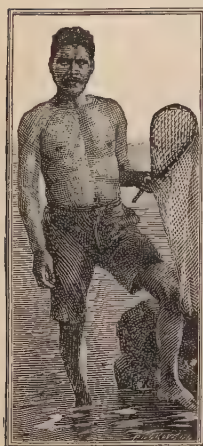


Government Building, Honolulu.

up from the bottom of the deep sea. On the island of Hawaii rise two of the highest peaks in all the Pacific isles — the volcanoes of Mauna Kea and Mauna Loa. The latter is active, and on its east slope is also the huge, active crater of

Kilauea, world-famed for its size and for its lake of molten lava.

now more than 100,000 people in the islands, but less than one third are brown natives. The others belong to the white and the yellow races—the latter being from Japan and China. There are twice as many yellow people as white.



Shrimp Fisher, Hawaii.



Native Girls, Hawaii.

Though most parts of the islands are rugged with cones, ridges and other forms of lava flows, there are also many open valleys of great fertility. The rich soil is well watered. Tropical fruits abound. Sugar and rice are the chief exports.

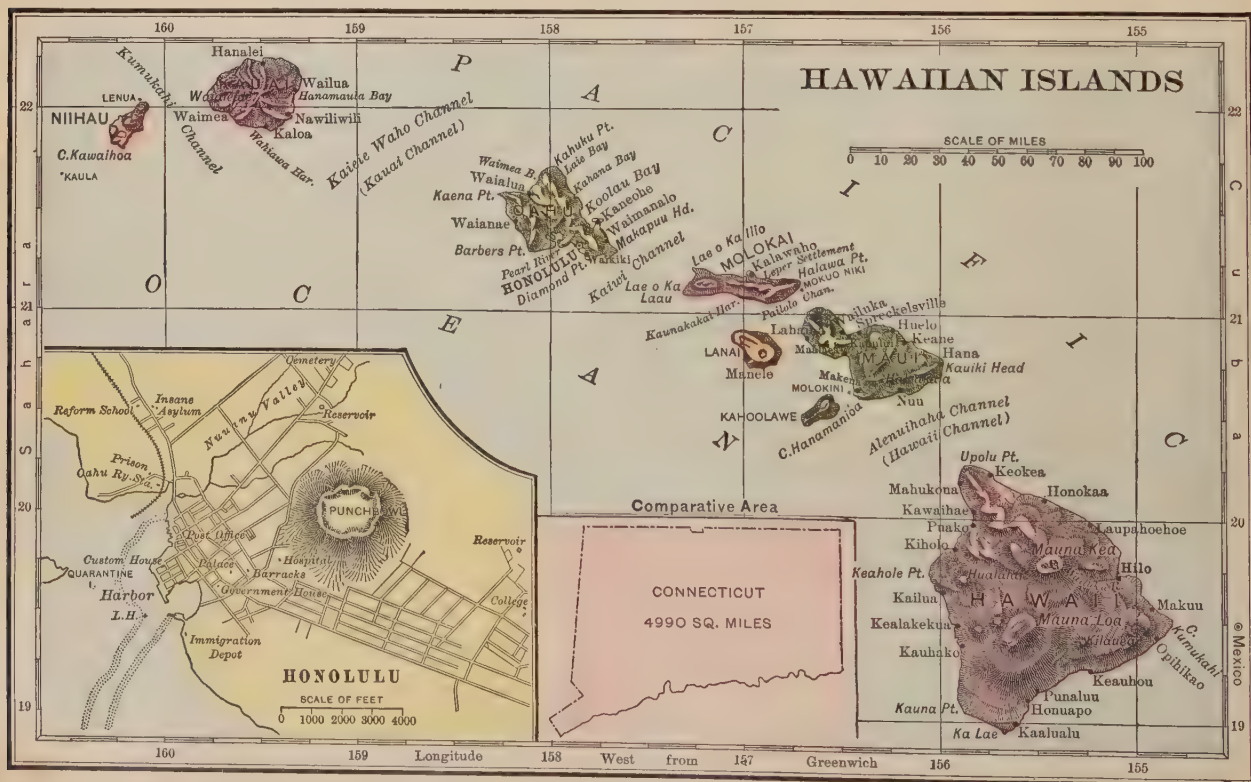
The natives of Hawaii are a peaceable and happy race. In features they are like the brown people of

whom we have read, but are more intelligent than any other natives of Pacific islands. They belong to the same race as the Filipinos. There are

Various chiefs, kings and queens ruled Hawaii until July 4, 1894, when the white people of the islands took charge of the islands. In 1898 they were annexed to the United States.

Honolulu is the capital and chief port. It is on a fine harbor of the island of Oahu. This city has good schools, beautiful public buildings and homes, as well as electric lights and tramways. Steamers run from this port to San Francisco and to ports of the Old World.

PHILIPPINES. At the close of the war with Spain, a large group of islands, known as the *Philippines*, came under the care of our country.



Hawaiian Islands.

They are southeast of Asia and have a climate like that of the West Indies. The islands are largely built of volcanic rock and contain active craters. The highlands extend chiefly north and south. There are many valleys, slopes and plains with very rich soil. Lakes, rivers and small streams abound.

There are eleven large islands and several hundred smaller ones in the group. Luzon is the largest, with an area nearly equal to that of Cuba. Mindanao is next in size.

With plenty of heat and moisture, the islands are covered with many forms of plant life. Trees of various kinds yield dyes, gums and cabinet woods. Coconut palms and bamboo thrive there. Tobacco and sugar are leading products; but the staples for which the islands have long been noted are fine tobacco and *Manila hemp*, the latter being a fiber used for making rope and twine. It is not true hemp, but is the fiber of a kind of banana plant. Large crops of rice furnish food for many people. Fruits grow wild all over the islands.

The Philippines have few kinds of large, wild animals. The buffalo, not the bison of our country, is found in both the wild and the tame state.

The earliest people in the Philippines may have been the *Negritos* — a dwarfish black race now found in the mountains of Luzon and Negros



Philippine Natives (or Filipinos) and Buffalo.

islands. They were long ago hunted from the lowlands by stronger people of the brown race, and now wander over the ranges and through the forests, without fixed homes, eating wild fruits and sleeping wherever they may be when darkness comes on.

There are seven or eight million natives in the islands, and nearly all belong to the brown race. Most of them are peaceable, kind and honest. The brown people of the towns and cities are bright and intelligent; but the forest and mountain tribes are "simple children of nature." On many of the islands the natives are little known, and some of them are savages.

Many of the tribes of the interior live on wild fruits and game, with little thought of tilling the soil. The lance, bow and arrows are native weapons. During the dry season entire tribes wander through the forests, sleeping in the open air; others make rude huts; still others settle in villages and make huts of bamboo, palm or rattan.



Street Scene in Manila.

The tame buffalo is the most useful beast of burden in the islands. It is used to draw rude plows and carts, as well as to carry loads on its back. Sheep and goats are reared. Monkeys, huge bats, birds, snakes and insects abound.

Many Chinese have settled in the larger towns and cities. They are thrifty and carry on most of the local trade and banking. A few thousand Spanish and other people of the white race live in the large cities.

Manila is the capital and largest city. It is on a fine bay at the mouth of the Pasig river, and carries on the greater part of the foreign trade of the islands. The second port in importance is Iloilo, on the island of Panay.

GUAM. Almost due east of Manila, about 1600 miles out in the Pacific, rises the island of Guam. It is one of a group called the *Ladrones*, or *thieves'* islands. The climate and products resemble those of Hawaii. Guam is only 30 miles long (see inset on map); its chief town is *Agaña*. There are only a few thousand people on the island, and one half of them are in this town. At the close of the war with Spain, Guam was ceded to the United States. It will be used as a coaling station and base of supplies for ships of our navy.

Pronouncing Word List.

Key: äle, ät, ärm, final; ëve, ënd; ïce, ïll; öld, ön; üse, üp; food; ch as in chop; g as in go; th as in thin; ow as in cow.

Agaña, ä-gän'yä.
Aguadilla, ä-gwä-dël'yä.
Antilles, än-tíl'lez.
Arecibo, ä-rä-së'bó.
Balanga, bä-läng'gä.
Baracoa, bä-rä-kó'ä.
Batabanó, bä-tä-bä-nó'.
Bayamon, bä-yä-món'.
Bohol, bö-höl'.
Bulacan, böö-lä-kän'.
Caimanera, ki-mä-nä'rä.
Cardenas, kär-dä-näs.
Cavité, kä-vë-tä'.
Cienfuegos, së-ën-fwä'gós.
Corrientes, kór-rë-ën'tës.
Guam, gwäm.

Guanabacoa, gwä-nä-bä-có'ä.
Guantanamo, gwän-tä'-nä-mó.
Guayama, gwi-ä'mä.
Hawaii, hä-wi'ë.
Hilo, hë'ló.
Hoguin, hól-gën'.
Iloilo, ë-ló-ë'ló.
Isla de Pinos, ës'lä dä pë'nós.
Isla de Vieques, ës'lä dä vë-ä'käs.
Kahoolawe, kä-hö-ö-lä'-vā.
Kauai, kow-i'ë.
Kilauea, kë-low-ä'ä.
Ladrones, lä-drönz'.
Lanai, lä-nä'ë.
Leyte, lä'ë-tä.

Luzon, lōo-zōn'.
Maestra, mä-äs'trä.
Másbate, mäs-bä'tä.
Matanzas, mä-tän'zas.
Maui, mow'ë.
Mauna Kea, mow'nä kä'ä.
Mauna Loa, mow'nä lö'ä.
Mayaguez, mi-ä-hwës'.
Mindanao, mën-dä-nä'ó.
Mindoro, mën-dō'rō.
Molokai, mö-lö-ki'.
Negrito, në-grí'tō.
Negros, nä'grós.
Niihau, në-how'.
Nuevas, nvä-vë'-täs.
Oahu, ö-ä'hōo.

Pago, pä'gō.
Palawan, pä-lä-wän'.
Pampanga, pä-m-pän'gä.
Panay, pä-ni'.
Pasig, pä-sëg'.
Philippine, fil'ip-in.
Pinar del Rio, pë-när' dël rë'ó.
Ponce, pön'thä.
Puerto Rico, pwër'to rë'kō.
Samar, sä-mär'.
San German, sän hër-män'.
San Juan, sän hōo-än'.
Santiago, sän-të-ä'-gō.
Sulu, söo-lōö'.
Trocha, trö'chä.
Zebu, zë-bōö'.



SUPPLEMENT.

Population of the Principal Cities of the World.

NORTH AMERICA.

British America.

Year.	Population.
1891 Montreal . . .	217,000
1891 Toronto . . .	181,000
1891 Quebec . . .	63,000
1891 Hamilton . . .	49,000
1891 Ottawa . . .	44,000
1891 St. John . . .	39,000
1891 Halifax . . .	39,000
1891 London . . .	32,000
1891 St. John's . . .	29,000
1891 Winnipeg . . .	26,000
1891 Victoria . . .	17,000

Central America.

1895 Guatemala . . .	65,000
1895 Leon . . .	35,000
1893 San Salvador . . .	20,000
1897 San José . . .	20,000
1895 Managua . . .	18,000

Mexico.

1895 Mexico . . .	344,000
1895 Guadalajara . . .	84,000

United States.

See page iv.

West Indies.

1892 Havana . . .	225,000
1892 Santiago . . .	71,000
1894 Port au Prince . . .	50,000
1893 Kingston . . .	47,000
1892 Matanzas . . .	27,000
1892 Cienfuegos . . .	27,000

SOUTH AMERICA.

Argentina.

1896 Buenos Ayres . . .	691,000
1895 Córdoba . . .	43,000
1895 La Plata . . .	43,000

Bolivia.

1895 La Paz . . .	40,000
1894 Sucre . . .	20,000

Brazil.

1892 Rio Janeiro . . .	522,000
1892 Pernambuco . . .	190,000
1892 Bahia . . .	200,000
1892 Pará . . .	40,000

Chile.

1890 Santiago . . .	250,000
1890 Valparaiso . . .	150,000

Colombia.

1886 Bogotá . . .	120,000
1886 Panama . . .	30,000

Ecuador.

1897 Quito . . .	80,000
1897 Guayaquil . . .	50,000

Guiana.

1891 Georgetown . . .	53,000
1892 Paramaribo . . .	29,000
1895 Cayenne . . .	11,000

Paraguay.

1895 Asuncion . . .	45,000
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Peru.

Year.	Population.
1895 Lima . . .	162,000
1895 Callao . . .	38,000
1895 Arequipa . . .	32,000
1895 Cuzco . . .	19,000

Uruguay.

1893 Montevideo . . .	226,000
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Venezuela.

1891 Carácas . . .	73,000
1891 Valencia . . .	39,000
1891 Maracaibo . . .	34,000

EUROPE.

Austria-Hungary.

1890 Vienna . . .	1,364,000
1890 Budapest . . .	506,000
1890 Prague . . .	184,000
1890 Trieste . . .	158,000

Belgium.

1895 Brussels . . .	518,000
1895 Antwerp . . .	262,000
1895 Liège . . .	163,000
1895 Ghent . . .	157,000

Balkan States.

1895 Constantinople . . .	900,000
1890 Bukharest . . .	195,000
1895 Saloniki . . .	150,000
1889 Athens . . .	107,000
1893 Sofia . . .	47,000

Denmark.

1890 Copenhagen . . .	375,000
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England and Wales.

1898 London . . .	4,463,000
1898 Liverpool . . .	633,000
1898 Manchester . . .	534,000
1898 Birmingham . . .	505,000
1898 Leeds . . .	409,000
1898 Sheffield . . .	351,000
1898 Bristol . . .	232,000
1898 Bradford . . .	231,000
1898 Cardiff . . .	170,000

France.

1896 Paris . . .	2,537,000
1896 Lyon . . .	466,000
1896 Marseille . . .	442,000
1896 Bordeaux . . .	256,000
1896 Lille . . .	216,000
1896 Toulouse . . .	150,000
1896 Havre . . .	120,000

Germany.

1895 Berlin . . .	1,677,000
1895 Hamburg . . .	625,000
1895 Munich . . .	407,000
1895 Leipzig . . .	398,000
1895 Breslau . . .	373,000
1895 Dresden . . .	334,000
1895 Cologne . . .	321,000

Ireland.

1891 Belfast . . .	256,000
1891 Dublin . . .	245,000
1891 Cork . . .	75,000
1891 Limerick . . .	37,000

Italy.

Year.	Population.
1894 Naples . . .	527,000
1894 Rome . . .	463,000
1894 Milan . . .	443,000
1894 Turin . . .	345,000
1894 Palermo . . .	280,000
1894 Genoa . . .	220,000
1894 Florence . . .	204,000
1894 Venice . . .	153,000

Netherlands.

1896 Amsterdam . . .	456,000
1896 Rotterdam . . .	276,000
1896 The Hague . . .	186,000

Norway and Sweden.

1895 Stockholm . . .	272,000
1891 Christiania . . .	151,000
1895 Gottenborg . . .	115,000
1891 Bergen . . .	54,000

Portugal.

1895 Lisbon . . .	275,000
1895 Oporto . . .	112,000

Russia.

1897 St. Petersburg . . .	1,287,000
1897 Moscow . . .	989,000
1897 Warsaw . . .	615,000
1897 Odessa . . .	404,000
1897 Riga . . .	283,000

Scotland.

1898 Glasgow . . .	715,000
1898 Edinburgh . . .	292,000
1898 Dundee . . .	160,000

Spain.

1895 Madrid . . .	484,000
1895 Barcelona . . .	280,000
1895 Valencia . . .	175,000
1895 Málaga . . .	138,000

Switzerland.

1893 Zurich . . .	103,000
1893 Geneva . . .	79,000
1893 Basel . . .	75,000
1893 Bern . . .	48,000

ASIA.

Asiatic Russia.

1897 Tiflis . . .	160,000
1897 Tashkend . . .	156,500
1897 Baku . . .	112,000
1897 Irkutsk . . .	60,000

China.

1893 Canton . . .	1,800,000
1893 Peking . . .	1,000,000
1893 Tientsin . . .	950,000
1893 Hankow . . .	800,000
1893 Fuchau . . .	640,000
1893 Shanghai . . .	400,000

British India.

1891 Calcutta . . .	862,000
1891 Bombay . . .	822,000
1891 Madras . . .	453,000
1891 Hyderabad . . .	415,000
1891 Lucknow . . .	273,000

British India (Continued).

Year.	Population.
1891 Benares . . .	219,000
1891 Delhi . . .	193,000
1891 Mandalay . . .	189,000
1891 Singapore . . .	185,000
1891 Rangoon . . .	180,000

French Indo-China.

1895 Hanoi . . .	150,000
1895 Hué . . .	150,000
1895 Saigon . . .	85,000

East India Islands.

1894 Manila . . .	290,000
1894 Soerabaya . . .	140,000
1895 Batavia . . .	110,000

Japan.

1894 Tokyo . . .	1,242,000
1894 Osaka . . .	490,000
1894 Kyoto . . .	328,000
1894 Yokohama . . .	106,000

Korea.

1895 Seoul . . .	250,000
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Siam.

1895 Bangkok . . .	200,000
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Southwest Asia.

1895 Teherán . . .	210,000
1895 Smyrna . . .	200,000
1895 Damascus . . .	200,000
1895 Tabriz . . .	180,000
1895 Bagdad . . .	180,000
1895 Aleppo . . .	130,000
1895 Ispahán . . .	80,000
1895 Kábul . . .	60,000
1895 Kandahár . . .	50,000
1895 Mecca . . .	45,000
1895 Jerusalem . . .	41,000
1895 Herát . . .	30,000

AFRICA.

1895 Cairo . . .	418,000
1895 Alexandria . . .	230,000
1895 Fez . . .	140,000
1895 Morocco . . .	140,000
1895 Tunis . . .	125,000
1896 Johannesburg . . .	103,000
1895 Tananarivo . . .	100,000
1891 Algiers . . .	83,000
1891 Cape Town . . .	83,000
1891 Oran . . .	75,000
1895 Kuka . . .	60,000
1895 Zanzibar . . .	30,000
1895 Freetown . . .	30,000
1895 Tangiers . . .	30,000
1895 Tripoli . . .	30,000
1891 Kimberley . . .	29,000
1895 Port Said . . .	18,000
1895 Monrovia . . .	5,000

OCEANIA.

1895 Melbourne . . .	448,000
1895 Sydney . . .	408,000
1896 Adelaide . . .	145,000
1896 Auckland . . .	58,000
1891 Brisbane . . .	49,000
1896 Dunedin . . .	47,000
1896 Wellington . . .	41,000
1897 Honolulu . . .	28,000
1891 Hobart . . .	25,000

COUNTRIES AND COLONIES.

NORTH AMERICA. 8,000,000. 90,000,000.

Year.	Area.	Population.
1891 Canada	3,450,000	4,833,000
1892 Costa Rica	23,000	243,000
1894 Cuba	43,000	1,632,000
1894 Guatemala	63,000	1,440,000
1894 Haiti	28,000	1,580,000
1889 Honduras	43,000	396,000
1895 Mexico	767,000	12,570,000
1891 Newfoundland	42,000	202,000
1895 Nicaragua	49,500	420,000
1892 Salvador	7,200	780,000
1890 United States	3,556,290	63,006,000

SOUTH AMERICA. 7,000,000. 36,500,000.

1895 Argentina	1,778,000	4,260,000
1895 Brazil	3,210,000	16,000,000
1891 British Guiana	110,000	285,000
1894 Bolivia	567,000	2,300,000
1895 Chile	294,000	3,413,000
1895 Colombia	514,000	4,000,000
1892 Dutch Guiana	46,000	72,000
1890 Ecuador	120,000	1,275,000
1891 French Guiana	47,000	25,000
1895 Paraguay	98,000	430,000
1894 Peru	464,000	3,000,000
1894 Uruguay	72,000	787,000
1891 Venezuela	594,000	2,324,000

EUROPE. 3,800,000. 360,000,000.

1890 Austria-Hungary	265,000	42,830,000
1895 Belgium	11,400	6,410,000
1893 Bulgaria	38,000	3,310,000
1890 Denmark	15,300	2,185,000
1891 England	50,800	27,484,000
1896 France	204,000	38,518,000
1895 Germany	208,700	52,279,000
1889 Greece	25,000	2,187,000
1891 Ireland	32,600	4,706,000
1895 Italy	110,000	31,100,000
1896 Netherlands	12,650	4,860,000
1891 Norway	125,000	2,000,000
1894 Portugal	34,000	5,300,000
1893 Roumania	48,300	5,800,000
1897 Russia	2,100,000	126,411,000
1891 Scotland	30,400	4,026,000
1895 Servia	19,000	2,288,000
1895 Spain	198,000	18,000,000
1895 Sweden	173,000	4,919,000
1894 Switzerland	16,000	2,990,000
1895 European Turkey	61,000	4,780,000
1891 Wales	7,400	1,519,000

ASIA. 17,000,000. 850,000,000.

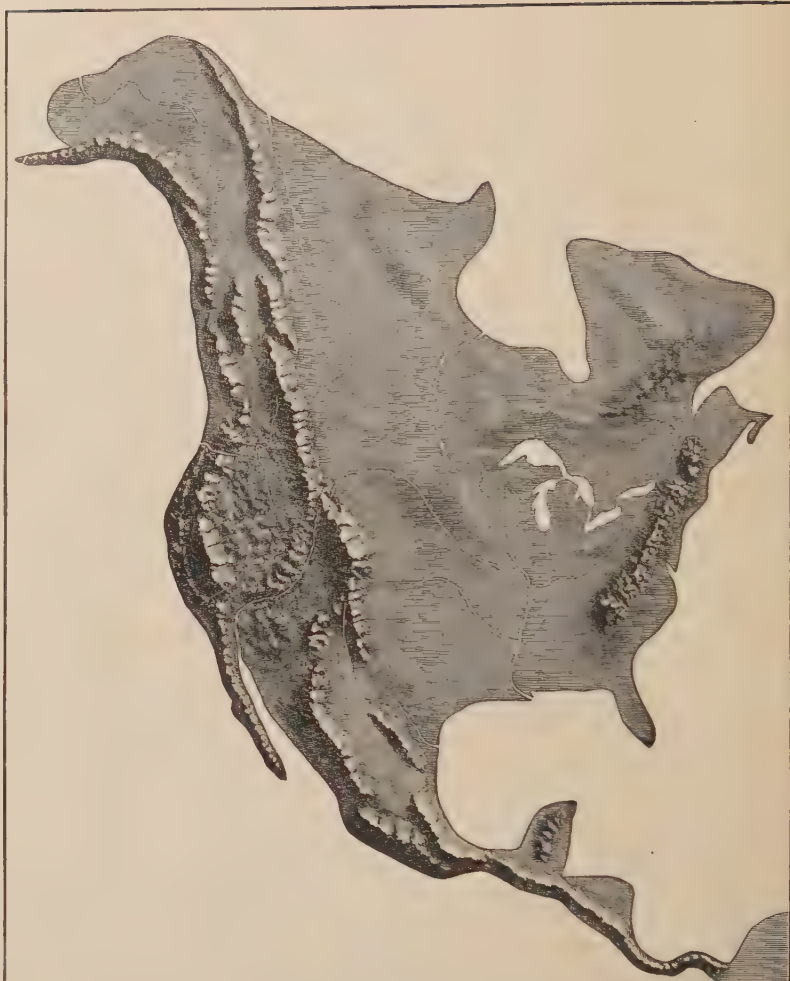
1895 Afghanistan	212,000	4,000,000
1895 Arabia	1,000,000	2,200,000
1895 Asiatic Turkey	687,000	21,600,000
1895 Baluchistan	130,000	500,000
1895 Chinese Empire	4,218,000	400,000,000
1891 India (British)	1,500,000	300,000,000
1895 Indo-China (French)	138,000	17,000,000
1895 Java	51,000	25,000,000
1895 Japan	148,000	42,000,000
1895 Korea	82,000	10,000,000
1895 Persia	628,000	9,000,000
1895 Philippines	114,000	7,000,000
1893 Russia in Asia	6,560,000	18,125,000
1895 Siam	300,000	5,000,000

AFRICA. 11,500,000. 130,000,000.

1895 Abyssinia	194,000	4,500,000
1896 Algeria	185,000	4,429,000
1895 Cape Colony	221,000	1,825,000
1895 Egypt	400,000	6,820,000
1895 Kongo State	900,000	30,000,000
1894 Liberia	14,400	1,068,000
1895 Madagascar	228,500	3,500,000
1895 Morocco	220,000	5,000,000
1895 Orange Free State	48,000	208,000
1895 Sahara	2,000,000	2,500,000
1895 Sudan	2,000,000	50,000,000
1896 Transvaal	119,000	600,000
1895 Tripoli	340,000	800,000
1895 Tunis	45,000	1,500,000

OCEANIA. 3,500,000. 6,000,000.

1890 Hawaii	6,500	90,000
1891 New South Wales	310,700	1,132,000
1896 New Zealand	104,500	703,000
1891 Queensland	668,500	394,000
1891 South Australia	904,000	320,000
1891 Victoria	88,000	1,140,000
1896 West Australia	976,000	53,000



NOTE. The maps of this series, pages ii to v, are inserted as a guide for teachers in drawing and modeling. The outlines are so simple that no construction lines are needed. Pupils can easily learn to *sketch* these maps. They are all made on the same area-scale and show the relative sizes of the continents.

Rivers and River Basins.

RIVER.	AREA OF BASIN, SQUARE MILES.	LENGTH IN MILES.
Amazon	2,500,000	4,000
Kongo	1,500,000	3,000
Nile	1,400,000	4,000
Mississippi — Missouri	1,250,000	4,200
Plata	1,250,000	2,300
Yangtze	500,000	3,300
Volga	500,000	2,300
Ganges	450,000	1,800
St. Lawrence	350,000	2,000
Danube	300,000	2,000
Orinoco	300,000	1,500
Columbia	250,000	1,400
Colorado	250,000	1,100

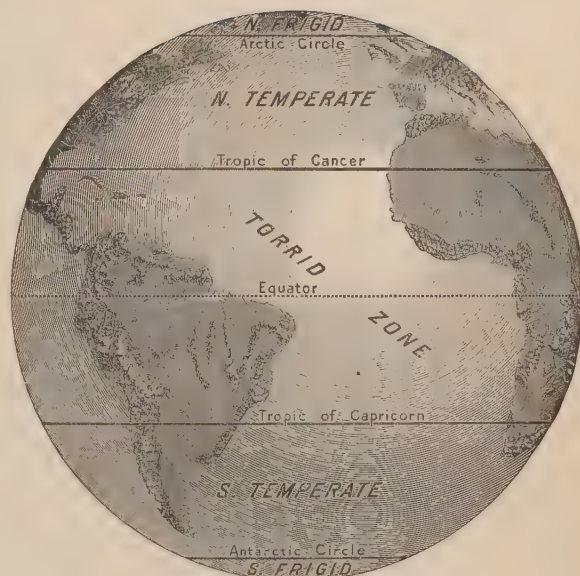
Zones and Circles. (See page 33.)

The line round the earth, upon which the vertical rays fall during the first day of our summer, is called the *tropic of Cancer*. During the first day of our winter the sun shines straight down on the *tropic of Capricorn*. The belt of land and water lying between or within the tropics is called the *torrid zone*. The tropics are at about one fourth the distance from the equator to the poles.

Find the *arctic circle* on the map. Find the *ant-arctic circle*. These circles are at about one fourth the distance from the poles to the equator.

Bound the *north frigid zone*. The *south frigid zone*. The *north temperate*. The *south temperate*.

The number of degrees at which any place lies north or south of the equator is called the *latitude* of that place. The number of degrees at which any place lies east or west of a given prime meridian is called the *longitude* of the place.



The United States.



STATES.	SQUARE MILES.	POPULATION.
Alabama	52,250	1,513,017
Alaska	531,410	31,795
Arizona	113,020	59,620
Arkansas	53,850	1,128,179
California	158,360	1,208,130
Colorado	103,925	412,198
Connecticut	4,990	746,258
Delaware	2,050	168,493
District of Columbia	70	230,392
Florida	58,680	391,422
Georgia	59,475	1,837,353
Idaho	84,800	84,385
Illinois	56,650	3,826,351
Indiana	36,350	2,192,404
Indian Territory	31,400	186,490
Iowa	56,025	1,911,896
Kansas	82,080	1,427,096
Kentucky	40,400	1,858,635
Louisiana	48,720	1,118,587
Maine	33,040	661,086
Maryland	12,210	1,042,890
Massachusetts	8,315	2,238,943
Michigan	58,915	2,093,889
Minnesota	83,365	1,301,826
Mississippi	46,810	1,289,600
Missouri	69,415	2,679,184
Montana	146,080	132,159
Nebraska	77,510	1,058,910
Nevada	110,700	45,761
New Hampshire	9,305	376,530
New Jersey	7,815	1,444,933
New Mexico	122,580	153,593
New York	49,170	5,997,853
North Carolina	52,250	1,617,947
North Dakota	70,795	182,719
Ohio	41,060	3,672,313
Oklahoma	39,030	61,846
Oregon	96,030	313,767
Pennsylvania	45,215	5,258,014
Rhode Island	1,250	345,506
South Carolina	30,570	1,151,149
South Dakota	77,650	323,808
Tennessee	42,050	1,767,518
Texas	265,780	2,235,523
Utah	84,970	207,905
Vermont	9,565	332,422
Virginia	42,450	1,655,980
Washington	69,180	349,390
West Virginia	24,780	762,794
Wisconsin	56,040	1,686,880
Wyoming	97,890	60,705

Area of Oceans.

	SQUARE MILES.
Pacific	70,000,000
Atlantic	35,000,000
Indian	23,000,000
Antarctic	7,000,000
Arctic	4,000,000

Average Heights of Plateaus.

	FEET.
Tibet	14,000
Bolivia	12,000
Mexico	8,000
Abyssinia	7,000
Great Basin	4,000
Gobi	4,000
Brazil	2,000
Switzerland	2,000



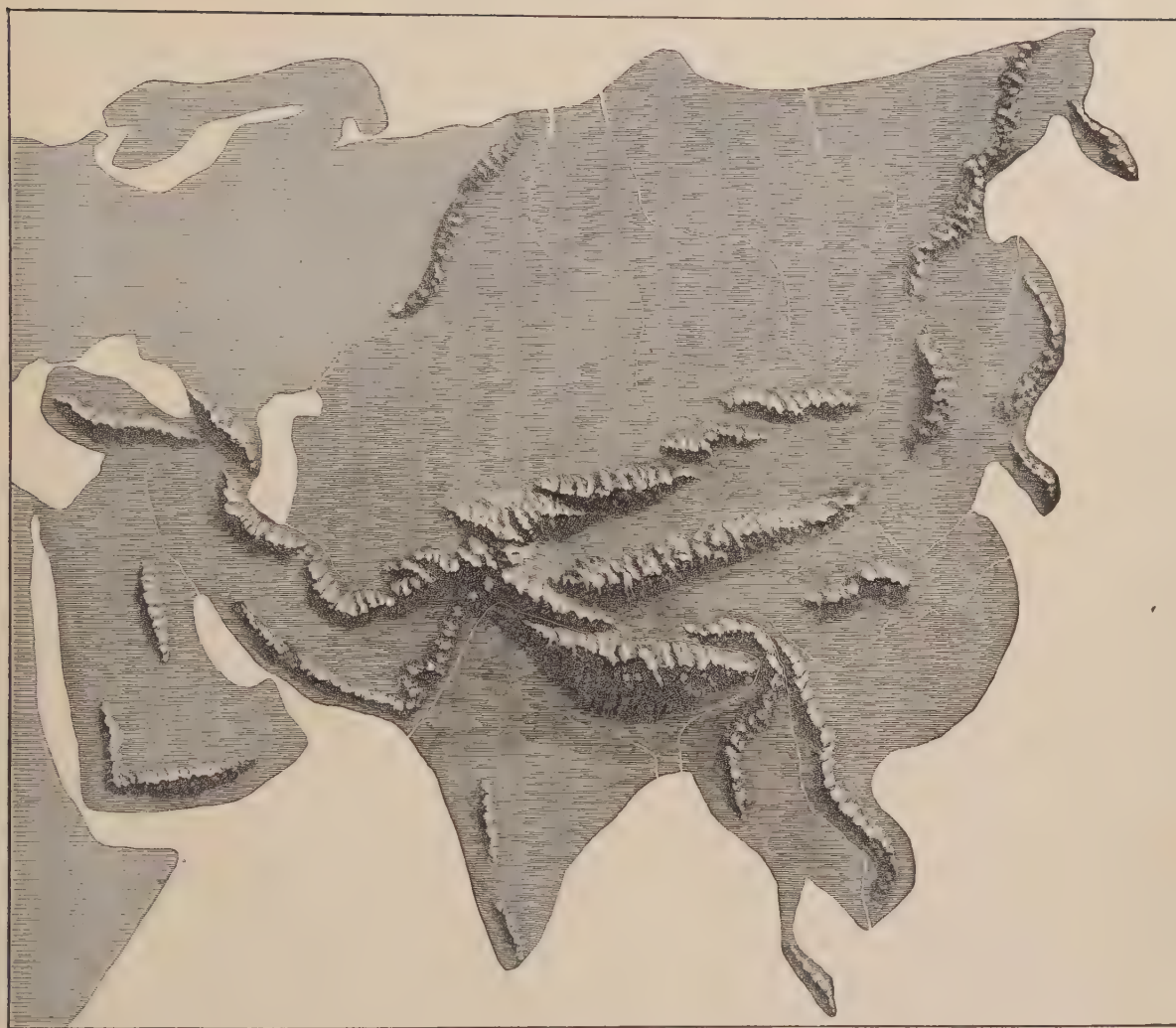
Leading Cities of the United States.

POPULATION, 1890 (over 100,000).

New York, N. Y. ¹	1,515,301
Chicago, Ill.	1,099,850
Philadelphia, Pa.	1,046,964
Brooklyn, N. Y. ¹	806,343
St. Louis, Mo.	451,770
Boston, Mass.	448,477
Baltimore, Md.*	434,439
San Francisco, Cal.	298,997
Cincinnati, Ohio	296,908
Cleveland, Ohio	261,353
Buffalo, N. Y.	255,664
New Orleans, La.	242,039
Pittsburg, Pa.	238,617
Washington, D. C.	230,392
Detroit, Mich.	205,876
Milwaukee, Wis.	204,468
Newark, N. J.	181,830
Minneapolis, Minn.	164,738
Jersey City, N. J.	163,003
Louisville, Ky.	161,129
Omaha, Neb.	140,452
Rochester, N. Y.	133,896
St. Paul, Minn.	133,156
Kansas City, Mo.	132,716
Providence, R. I.	132,146
Denver, Colo.	106,713
Indianapolis, Ind.	105,436
Allegheny, Pa.	105,287



¹ On New Year's day, 1898, Brooklyn, Long Island city and several towns were annexed to New York.



Heights of Noted Mountains.

NAME.	LOCATION.	HEIGHT IN FT.
Aconcagua	Chile	22,422
Ararat	Turkey	17,260
Chimborazo	Ecuador	21,420
Dapsang	Tibet	28,278
Elburz	Russia	18,526
Everest	India	29,002
Kenia	East Africa	18,045
Kilauea	Hawaiian Islands	4,040
Kilimanjaro	East Africa	19,600
Kunchinjunga	India	28,156
Logan	Canada	19,500
Mauna Loa	Hawaiian Islands	13,600
Mitchell	North Carolina	6,711
Mt. Blanc	France	15,810
Orizaba	Mexico	17,380
Pikes peak	Colorado	14,147
Popocatepetl	Mexico	17,784
St. Elias	Alaska	18,010
Shasta	California	14,440
Vesuvius	Italy	3,948
Washington	New Hampshire	6,288
Whitney	California	14,898



PRONOUNCING WORD LIST.

Key: äle, ät, câre, ärm, final, all; ëve, ënd, hër, recent; lee, ill, admiral; öld, fôr, öñ, anchor; üse, üp, fûr, awful; fööd, fööt; ch as in chop; g as in go; ng as in sing; n as in ink; th as in thin; th as in the; ñ as in banyan; oi as in oil; ow as in cow; N nearly like ng in sing (*French nasal*).

Aberdeen, äb-er-dën'.
 Abyssinia, äb-ïs-sin' i-g.
 Acapulco, ä-kä-pool' kō.
 Aconagua, ä-kön-kä gwä.
 Adelaide, äd' ä-läd.
 Aden, ä' den.
 Adirondack, äd-i-rön'dak.
 Adrian, ä' dri-an.
 Adrianople, äd-ri-an-ö' pl.
 Adriatic, äd-rë-ät' ik.
 Ægean, ë-jë an.
 Afghánistán, äf-gän-ís-tän'.
 Africa, äf' ri-kä.
 Akron, äk rön.
 Alabama, ä-lä-bä'mä.
 Alamo, ä-lä-mō.
 Alaska, ä-läs' kä.
 Albany, ä-l' bā-ni.
 Albemarle, ä-l' bə-märl.
 Alberta, ä-l' bért ä.
 Albuquerque, ä-l' böö-kär' kã.
 Alderney, ä-l' dər-ni.
 Aleutian, ä-lü shi-an.
 Alexandria, ä-l' äg-sän' dri-g.
 Algeria, ä-l' jë ri-ä.
 Algiers, ä-l' jërz'.
 Alleghany, ä-l' ä-gä-ni.
 Allegheny, ä-l' ä-gä-ni.
 Altai, ä-l' ti.
 Altoona, ä-l' too' nä.
 Amazon, äm ä-zön.
 Amsterdam, äm'stər-däm.
 Amur, ä-moor.
 Anam, ä-näm'.
 Andes, äñ dëz.
 Andorra, äñ-dör' rä.
 Androsceggin, äñ-drös-cög' in.
 Anglesey, äñ gl-së.
 Annapolis, äñ-näp' ö-lis.
 Antarctic, äñ-tärk' tik.
 Anticosti, äñ-ti-kös' ti.
 Antilles, äñ-til' lëz, or öñ' täl'.
 Antwerp, änt wərp.
 Apalachicola, ä-pä-läch-i-kō' lä.
 Appennines, äp en-ninz.
 Apia, ä pē-ä.
 Appalachian, äp-pä-lä' chi-an.
 Appomattox, äp-pō-mät' tōks.
 Apteryx, äp' tē-rix.
 Arabian, ä-rä bi-an.
 Aral, är' al.
 Ararat, är' ä-rät.
 Archangel, ärk-än' jël.
 Archipelago, är-ki-pël' ä-gō.
 Arctic, ärk' tik.
 Ardennes, är-dën'.
 Arequipa, ä-rä-kë' pä.
 Argentina, är-jën-të nä.
 Arizona, är-i-zō' nä.
 Arkansas, är' kan-sä'.
 Armadillo, är-mä-dil' lö.
 Arthabaska, är-thä-bäs' kä.
 Asheville, äsh' vil.
 Asia, ä shi-ä.
 Astoria, äs-tō' ri-ä.
 Astrakhan, äs-trä-kän'.
 Atacama, ä-tä-kä' mä.
 Atbara, ät-bä' rä.
 Atchison, äch' i-sön.
 Athabasca, äth-ä-bäs' kä.
 Athens, äth' enz.
 Atlanta, ät-län' tä.

Atlantic, ät-län' tik.
 Atoll, ä-töl'.
 Auburn, ä' būrn.
 Auckland, äk' land.
 Augusta, ä-güs' tä.
 Au Sable, ä sä' bl.
 Austin, äs' tün.
 Australia, äs-trä' li-g.
 Austria, äs' tri-g.
 Avon, ä von.
 Azof, ä-zöf'.
 Azores, ä-zörz'.
 Bahama, bä-hä'mä.
 Bahia, bä-ë ä.
 Baikal, bi' käl.
 Baku, bä-koo'.
 Balearic, bäl-ä-är' ik.
 Balkan, bäl-kän'.
 Balkash, bäl-käsh'.
 Baltic, bäl' tik.
 Baltimore, bäl' ti-mör or -mör.
 Baluchistan, bäl-löo-chis-tän'.
 Bangkok, bäng' kōk'.
 Bangor, bäng' gōr.
 Barcelona, bär-sä-lō' nä.
 Basel, bä' zel.
 Batavia, bä-tä' vi-ä.
 Baton Rouge, bät-ün rōozh'.
 Bayonne, bä-yön'.
 Beatrice, bë' ä-trës.
 Beaufort, bö fört (N. C.) or bü-fürt (S. C.).
 Bechuanaland, bëk-ü-än' ä-länd.
 Bedouin, bëd öo-ën.
 Belfast, bël fäst (Me.) or bël-fäst' (Ireland).
 Belgium, bël' jü-üm.
 Belgrade, bël-gräd'.
 Belize, bä-lëz.
 Bellaire, bël-är'.
 Belle Isle, bël-il'.
 Benares, bëñ-ä rëz.
 Bengal, bëñ-gäl'.
 Ben-Nevis, bëñ-nëv' is.
 Bering, bë ring.
 Berlin, bërlin or Ger. bërl-ën'.
 Bermuda, bër-mü dä.
 Bern, bërn.
 Bethlehem, bëth' lë-hëm.
 Biddeford, bid' ä-ford.
 Binghamton, bing' am-tön.
 Binue, bëñ-öö-ë'.
 Birmingham, bërl' mung-üm.
 Biscay, bis' kä.
 Bismarck, bis' märk.
 Bogotá, bö-gō-tä'.
 Boise, böi-zä'.
 Bokhara, bök-ä' rä.
 Bolan, bö lan.
 Bolivia, bö-liv' i-g.
 Bologna, bö-lön' yä.
 Bombay, böm-bä'.
 Boothia, böö thi-g.
 Bordeaux, börd-ö'.
 Borneo, böñ nē-ö.
 Bosnia, böz ni-ä.
 Bosphorus, böf fō-rüs.
 Bothmia, böth' ni-ä.
 Brahmaputra, brä-mä-pōö' trä.
 Brazil, brä-zil'.
 Brazos, brä zōs.

Bremen, brä'mën.
 Breslau, brës' low.
 Brest, brëst.
 Brindisi, brën' dë-së.
 Brisbane, bris' bän.
 Brooklyn, brook' lin.
 Brunswick, brünz' wik.
 Brussels, brüs' selz.
 Budapest, böö dä-pëst.
 Buenos Ayres, bö nüñ ä' rüz or Sp. bwä nös i' rës.
 Bukharest, bü-kä-rëst'.
 Bulgaria, bööl-gä ri-ä.
 Burlington, būrling-tön.
 Burma, būr' mä.
 Butte, bü't.
 Cairo, kār' ö (U. S.); kī' rō (Egypt).
 Calais, käl' is (U. S.); kä-lä' (France).
 Calcutta, käl-küt' tä.
 Caledonia, käl-ä-dō' ni-g.
 California, käl-i-för' ni-g.
 Callao, käl-lä' ö.
 Cambodia, käm-bō' dë-g.
 Cambridge, käm' brij.
 Campêche, käm-pä' chä.
 Canada, kän ä-dä.
 Candia, kän dë-ä.
 Canton, kän tön (U.S.); kän-tön' (China).
 Cape Breton, brët' ön.
 Carácas, kä-rä' käs.
 Cardiff, kār' dif.
 Cardigan, kār' dë-gan.
 Caribbean, kār-ib' bö an.
 Carolina, kār-ö-li' nä.
 Caroline, kār' ö-lin.
 Carpentaria, kār-pën-tä' rë-g.
 Cartagena, kār-tä-jë' nä.
 Caspian, kās' pi-an.
 Cassiquiare, kä-së-kë-ä rë.
 Caucasian, kä-kä shän.
 Caucasus, kä' kä-süs.
 Cayenne, kä-yën'.
 Celebes, sël ä-bëz.
 Cenis, sē-në'.
 Cetinje, chä-tën' yä.
 Cévennes, sä-vënn'.
 Ceylon, sē-lön'.
 Chad, chäd.
 Champlain, shäm-plän'.
 Charlotte, shär' lot.
 Chatham, chät' am.
 Chattahoochee, chät-tä-höö' chë.
 Chattanooga, chät-tä-nöö' gä.
 Chautauqua, chä-tä kwä.
 Chelsea, chël' sē.
 Cherbourg, shër' bürg.
 Cherokee, chër-ö-kë'.
 Chesapeake, chës' ä-pëk.
 Cheviot, chiv' ä-üt.
 Cheyenne, shi-ën'.
 Chicago, shë-kä' gō.
 Chile, chë' lä.
 Chimborazo, chüm-bō-rä' zō.
 Christiania, kris-të-ä nē-ä.
 Cincinnati, süm-sün-nä' ti.
 Clyde, klid.
 Cochín China, kō' chin chí' nä.
 Coeur d'Alene, kü-dä-län'.

Cohoes, kō-höz'.
 Colima, kō-lë' mä.
 Cologne, kō-lön'.
 Colombia, kō-löm' bë-ä.
 Colon, kō-lön'.
 Colorado, kōl-ä-rä' dō.
 Conception, kön-sëp' shün.
 Concord, kōñk' urd.
 Connecticut, kön-nët' i-küt.
 Constance, kön stans.
 Constantine, kön-stän' ti-nō' pl.
 Coosa, kōö' sä.
 Copenhagen, kō-pen-hä' gen.
 Cordoba, kōr dō-bä.
 Corfu, kōr-föö'.
 Corinth, kōr' inth.
 Corpus Christi, kōr' püs kris'të.
 Corrientes, kōr-rë-ën' tës.
 Corsica, kōr' si-kä.
 Costa Rica, kōs' tä rë' kä.
 Cotopaxi, kō-tō-päk' sē.
 Covington, küv' ing-tön.
 Cuba, kü' bā.
 Curaçao, kü-rä-sō'.
 Cuzeo, küös' kō.
 Cyprus, si' prüs.
 Dahomey, dä-hō-mä.
 Dakota, dä-kō' tä.
 Dallas, däl' as.
 Damascus, dä-mäs' küs.
 Danzig, dant' zik.
 Danube, dän' üb.
 Dardanelles, dār-dä-nëlz'.
 Darfur, dār' föür.
 Darien, dā' rë-ën.
 Davenport, däv' en-pört.
 Decatur, dë-kä' tür.
 Dekkan, dëk' kan.
 Delaware, dël ä-vär.
 Delhi, India, dël' iä.
 Des Moines, dë-moin'.
 Des Plaines, dë-plän'.
 Detroit, dë-troit'.
 Dnieper, nē per.
 Dniester, nës tär.
 Dovrefield, dö-vrë-fyëld'.
 Drave, dräv.
 Dresden, drëz' dën.
 Dubuque, döo-bük'.
 Duluth, dü-löoth'.
 Dundalk, dün-dak'.
 Dundee, dün-dë'.
 Dunedin, dün' ed in.
 Dungeness, dün-jë-nës'.
 Dwina, dwë' nä.
 Eau Claire, ö-klär'.
 Ebro, ë' brö.
 Echidna, ë-kid' nä.
 Ecuador, ëk-wä-dör'.
 Edinburgh, ëd in-bür-ö.
 Egypt, ë jipt..
 Elba, ël' bä.
 Elbe, ël' bë.
 Elburz, ël-böörz'.
 Elgin, ël' jün.
 Elmira, ël-mi' rä.
 El Paso, ël pä' sō.
 Escanaba, ësk-ä-nä' bā.
 Etna, ët' nä.
 Euboea, ü-bë' ä.

Euphrates, ū-frā'tēz.
Eurasia, ū-rā'shī-ā.
European, ū-rō-pē an.
Evansville, ēv anz-vil.
Everest, ēv'ēr-ēst.
Eyre, ār.

Falkland, fak'land.
Fezzan, fēz-zān'.
Fiji, fē'jē.
Findlay, find'lā.
Finland, fin'land.
Fiord, fyōrd.
Firth, fērth.
Florida, flōr'i-dā.
Fond du Lac, fōn-dū-lāk'.
Formosa, fōr-mō'sā.
Fort Wayne, wān.
Frankfurt, frānk'fōort.
Fraser, frā'zēr.
Fremont, frē-mōnt'.
Fresno, frēs'nō.
Fujiyama, fōō-jī-ā-mā.

Galapagos, gā-lāp'ā-gōs.
Galatz, gā'lāts.
Galveston, gāl vēs-ton.
Galway, gāl wā.
Ganges, gān'jēs.
Garonne, gā-rōnn'.
Genesee, jēn-ē-sē'.
Geneva, jē-nē vā.
Genoa, jēn'ō-ā.
Georgia, jōr'j-ā.
Gerald, hā-rāl'.
Gettysburg, gēt'iz-būrg.
Ghats, gāts.
Ghent, gēnt.
Gibraltar, jī-brāl'tar.
Gila, hē'lā.
Gironde, zhē-rōnd'.
Glasgow, glās'gō.
Gloucester, glōs'tēr.
Gobi, gō'bē.
Grampians, grām'pi-anz.
Granada, grā-nā-dā.
Grand Manan, mān-ān'.
Gratz, grēts.
Greenwich, grēn'ij.
Guadalquivir, gwā-dāl-kē-vēr'.
Guadalup, gā-dā-lōōp' (U. S.);
gwā-dā-lōō pā (Spanish).
Guatemala, gwā-tā-mā-lā.
Guayaquil, gwā-ā-kāl'.
Guernsey, gēr'n zē.
Guiana, gē-ā-nā.
Guinea, gīn'ē.
Guthrie, gūth'rē.

Hagerstown, hā'gerz-town.
Haiti, hā'tī.
Halifax, hāl'ē-fāks.
Hanoi, hā-nō'ē.
Hanover, hān'ō-vēr.
Hatteras, hāt'tēr-as.
Havana, hā-vān'ā.
Havre, hā'vēr.
Havre de Grace, hāv'ēr dē grās.
Hawaii, hā-wī'ē.
Hebrides, hēb'rī-dēz.
Hekla, hēk'lā.
Henlopen, hēn-lō'pēn.
Herat, hēr-āt'.
Himalaya, him-ā'lā-yā.
Hindu-Kush, hin'dōo-kōosh.
Hindustan, hin'dōo-stān'.
Hoangho, hō-āng-hō'.
Hoboken, hō'bō-kēn.
Holyoke, hōl'yōk.
Hondo, hōn'dō.
Honduras, hōn-dōō-rās.
Hongkong, hōng-kōng'.
Honolulu, hō-nō-lōō'lōō.
Hoosac, hōō'sāk.
Housatonic, hōō-sā-tōn'ic.

Houston, hūs'ton.
Hué, hōō-ā'.
Humboldt, hūm'bōlt.
Hungary, hūn'gā-rī.
Huron, hūrōn.

Idaho, i'dā-hō.
Illimani, ēl-yē-mā'nē.
Illinois, il-lī-nōi' or -noiz'.
India, in'dī-ā.
Indiana, in-dī-ān'ā.
Indianapolis, in-dī-ān-āp'q-lis.
Indes, in'dēz.
Indus, in'dūs.
Innsbruck, ins'prook.
Inverness, in-vēr-nēs's.
Ionian, i-ō-nī-ān.
Iowa, i'ō-wā.
Iquique, ē-kē-kā.
Iran, ē-rān'.
Irkutsk, ir-kōōtsk'.
Isle Royale, ēl rwā-yāl'.
Italian, i-tāl'yan.
Itasca, i-tās'kā.
Ithaca, ith'ā-kā.

Jalapa, hā-lā'pā.
Jamaica, jā-mā-kā.
Japan, jā-pān'.
Jassy, jā'sē.
Java, jā'vā.
Jersey, jēr'zī.
Joliet, jō'lē-ēt.
Joplin, jōp'līn.
Juan de Fuca, hōō-ān' dā fōō'kā.
Juan Fernandez, fēr-nān'dēth.
Juneau, jū-nō'.
Jungfrau, yōōng'frow.
Jumata, jū-nī-āt'ā.
Jura, jūrā.

Kábul, kā-bōōl'.
Kadiak, kād-yāk'.
Kaffir, kāf'fēr.
Kalahari, kā-lā-hā'rī.
Kamchatka, kām-chāt'kā.
Kamerun, kā-mā-rōōn'.
Kanawha, kā-nā-wā.
Kankakee, kān-kā-kē'.
Kansas, kān'sās.
Karakoram, kā-rā-kō-rām.
Karpathian, kār-pā'thī-an.
Kashmir, kāsh-mēr'.
Kenia, kā-nē-ā.
Kennebec, kēn-ē-bēk'.
Kentucky, kēn-tūk'ī.
Keokuk, kē'ō-kūk.
Khaibar, kā'ē-bār.
Khartum, kār-tōōm'.
Khelat, kēl-āt'.
Khinghan, kīn-gān'.
Khiva, kē'vā.
Kilauea, kē-lōw-ā-ā.
Kilimanjaro, kil'ē-mān-jā-rō'.
Killarney, kil-ār'nī.
Kiolen, kyū'lēn.
Kirghiz, kīr-gēz'.
Kittery, kit'ēr-ī.
Klamath, klā'math.
Klondike, klōn'dīk.
Knoxville, nōks'vil.
Kongo, kōng'gō.
Kordofan, kōr-dō-fān'.
Korea, kō-rē'ā.
Krakow, krā'kō.
Kronstadt, krōn'stāt.
Kuenlun, kyēn-lōōn'.
Kyoto, kē'ō-tō.

Labrador, lāb-rā-dōr'.
Lachine, lā-shēn'.
La Crosse, lā-krōs'.
Ladoga, lād'ō-gā.
Ladrones, lād-rōnz'.
Lafayette, lā-fā-ēt'.
La Guaira, lā-gwī-rā.

Lancaster, lānk'as-tēr.
Lansing, lān'sīng.
La Paz, lā-pāth'.
Lapland, lāp'land.
La Plata, lā-plā'tā.
Laporte, lā-pōrt'.
Laramie, lār'ā-mē.
Lasalle, lā-sāl'.
Lassa, lās'sā.
Las Vegas, lās-vā'gās.
Leadville, lēd'vil.
Leavenworth, lēv'ēn-wōrth.
Lebanon, lēb'ā-nōn.
Leicester, lēs'tēr.
Leipzig, lēp'zīk.
Lena, lē'nā.
Leone, lē'ō-nē.
Lexington, lēk'sīng-tōn.
Liberia, lī-bē-rī-ā.
Libyan, lib'ē-an.
Liège, lē-āzh'.
Lima, lī'mā (U. S.); lē'mā (Peru).
Limerick, līm'ēr-ik.
Lisbon, līz'bōn.
Lisburn, līs'bārn.
Lisle, lēl'.
Liverpool, liv'ēr-pōōl.
Loanda, lō-ān'dā.
Loch, lōk.
Lofoden, lō-fō'dēn.
Loire, lwār.
Los Angeles, lōs-ān'gēl-ēs.
Louisiana, lōō-ē-zē-ā-nā.
Louisville, lōō'is- or lōō'ī-vil.
Lourenço Marques, lō-rēn'sō mār-kēs'.
Lucerne, lōō-sēr'n'.
Luray, lūr-ā'.
Luxemburg, lüks'ēm-būrg.
Luzon, lōō-zōn'.
Lyon, lī'ōn.

Macao, mā-kow'.
Mackenzie, mā-kēn'zī.
Mackinac, māk'ī-nā.
Macon, mā'kūn.
Madagascar, mād-ā-gās'kār.
Madeira, mā-dē-rā.
Madras, mā-drās'.
Madrid, mād'rīd (U. S.); mā-drīd' (Spain).
Magdalena, māg-dā-lā'nā.
Magellan, mā-jēl'ān.
Maine, mān.
Makassar, mā-kās'sār.
Malakka, mā-lāk'ā.
Malay, mā-lāy'.
Malden, mōl'dēn.
Manchester, mān'chēs-tēr.
Manchuria, mān-chōō'rē-ā.
Mandalay, mān-dā-lā.
Manila, mā-nīl'ā.
Manitoba, mān-ī-tō-bā'.
Maracaibo, mā-rā-kī'bō.
Marañon, mā-rān'yōn.
Marathon, mār'ā-thōn.
Marcy, mār'sī.
Marmora, mār'mō-rā.
Marseille, mār-sāl'.
Martinique, mār-tī-nēk'.
Maskat, mās-kāt'.
Massachusetts, mās-ā-chū'sēts.
Matabeleland, māt-ā-bēl'lānd.
Matagorda, māt-ā-gōr'dā.
Matamoros, māt-ā-mō-rōs.
Matapan, mā-tā-pān' (Gr.).
Mauch Chunk, mā-chūnk'.
Mauna Kea, mōw nā-kā'ā.
Mauna Loa, lō'ā.
Mauritius, mā-rīsh'īs.
Mediterranean, mēd'ī-tēr-rā'nē-an.
Mekong, mā-kōng'.
Melanesia, mēl-an-ē'shī-ā.
Melbourne, mēl'bārn.
Memphremagog, mēm-frē-mā'gōg.
Memphis, mēm'fis.

Mendocino, mēn-dō-sē'nō.
Meriden, mēr'ī-dēn.
Merrimac, mēr'ī-māk.
Mersey, mēr'zī.
Merthyr-Tydfil, mēr-thēr-tīd'fīl.
Messina, mēs-sē'nā.
Metz, mēts.
Mexico, mēks'ī-kō.
Miami, mī-ām'ī.
Michigan, mish'ī-gan.
Micronesia, mī-kro-nē'shī-ā.
Milan, mil'an or mī-lān'.
Mille Lacs, mēl-lāk'.
Milo, mē'lō (Greece).
Milwaukee, mil-wā'kē.
Mindanao, mēn-dā'nō'.
Minneapolis, mīn-ē-āp'q-lis.
Minnehaha, mīn-ē-hā'hā.
Minnesota, mīn-ē-sō'tā.
Mississippi, mis-is-īp'ī.
Missouri, mis-ōō-rī.
Mobile, mō-bēl'.
Mohave, mō-hā'vā.
Mohawk, mō'hāk.
Moluccas, mō-lūk'kās.
Mongolia, mōn-gō'li-ā.
Monongahela, mō-nōn-gā-hē'lā.
Monrovia, mōn-rō'vī-ā.
Montana, mōn-tā'nā.
Montauk, mōn-tāk'.
Mont Blanc, mōn blōn' or mōnt blānk.
Mont Ceniz, mōn'sē-nē' or mōnt.
Montenegro, mōn-tē-nā grō.
Monterey, mōn-tēr-ā'.
Montevideo, mōn-tē-vīd'ē-ō.
Montgomery, mōnt-gūm'ēr-ī.
Monticello, mōn-tē-sēl'lō.
Montpelier, mōnt-pē'lī-ēr.
Montreal, mōnt-rē'al'.
Moravia, mō-rā'vī-ā.
Morelia, mō-rā'lē-ā.
Morocco, mō-rōk'ō.
Moscow, mōs'kō.
Mount Lyell, lī'ēl'.
Mount St. Elias, ē-lī'ās.
Mount Tyndall, tīn'dāl'.
Mozambique, mō-zām-bēk'.
Munich, mū'nīk.
Murray, mūr'rā.
Muskatine, mūs-kā-tēn'.
Muskegon, mūs-kē'gōn.

Nanling, nān'līng.
Nantes, nānts.
Nantucket, nān-tūk'ēt.
Naples, nā'plz.
Narragansett, nār-rā-gān'sēt.
Nashua, nāsh'ū-ā.
Nassau, nās'ā.
Natchez, nā'chēz.
Nebraska, nē-brās'kā.
Nepal, nā-pāl'.
Netherlands, nēth'ēr-landz.
Neuse, nūs.
Nevada, nē-vā-dā.
Newark, nū'ārk.
Newfoundland, nū'fōnd-land.
New Hampshire, nū'hāmp'shīr.
New Orleans, -ōr'lē-anz.
Newport, nū'pōrt.
New Zealand, nū-zē'land.
Niagara, nī-āg'ā-rā.
Nicaragua, nē-kā-rā'gwā.
Nice, nēs.
Niger, nī'jēr.
Norfolk, nōr'fōk.
Norwegian, nōr-wē'jī-an.
Norwich, nōr'rij.
Nottingham, nōt'īng-am.
Nova Scotia, nō'vā skō'shī-ā.
Nova Zembla, nō'vā zēm'blā.
Nubia, nū'bī-ā.
Nyanza, nī-ān'zā.

Oahu, ō-ā'hōō.

Oakland, 6k'land.
Oasis, 6'a-sis.
Ob, 6b.
Oder, 6' der.
Odessa, 6-d6's s4.
Ogden, 6g' d6n.
Okechobee, 6-k6-ch6'b6.
Okhotsk, 6-k6tsk'.
Oklohoma, 6k-l4-h6'm4.
Olympia, 6-lim' p4-a.
Olympus, 6-lim' p6s.
Omaha, 6-m4-h4.
Oman, 6-m4n'.
Omsk, 6msk.
Onega, 6-n6' ga.
Oneida, 6-n4 d4.
Ontario, 6n-t4-r4-6.
Oregon, 6r' 6-g6n.
Orinoco, 6-r4-n6-k6.
Orizaba, 6-r6-th4'b4.
Orkney, 6rk n6.
Orleans, 6r-l4-6ns' (Fr.).
Ornithorychus, 6r-n4-th6-rim' k6s.
Oshkosh, 6sh' k6sh.
Oswego, 6s-w6 g6.
Ottawa, 6t-t4-w4.
Ozark, 6-z4rk'.

Pacific, p4-sif' ik.
Palermo, p4-l6r' m6.
Palestine, p4l' 6s-tin.
Pamir, p4-m6r'.
Pamlico, p4m' li-k6.
Pampas, p4m' p4s.
Panama, p4n-q-m4'.
Papua, p4p' 66-a.
Par4, p4-r4'.
Paraguay, p4-r4-gw4'.
Paramaribo, p4r-q-m4r' i-b6.
Parana, p4-r4-n4'.
Passaic, p4s-s4' ik.
Passamaquoddy, p4s-q-m4-kw6d' i.
Patagonia, p4t-q-n4-a.
Paterson, p4t' 6r-s6n.
Patras, p4-tr4s'.
Pawtucket, p4-t6k' 6t.
Pecos, p4 k6s.
Pedee, p6-d6'.
Pekin, p6-kin'.
Peling, p6-ling'.
Pennsylvania, p6n-sil-v4' n4-a.
Penobscot, p6-n6b' s6t.
Pensacola, p6n-s4-k6'l4.
Pentland, p6nt' land.
Peoria, p6-6 ri-a.
Pernambuco, p6r-n4m-b66' k6.
Persia, p6r' sh4-a.
Perth, p6rth.
Peru, p6-r66'.
Phenix, f6' niks.
Philadelphia, fil-q-d6l' fi-a.
Philippine, fil' ip-in.
Pierre, p6r.
Pindus, p4n' d6s.
Pittsburg, p4ts' b6rg.
Plata, pl4' t4.
Plymouth, plim' 6th.
Pnom Penh, p'n6m-p6n'.
Pompeii, p6m-p4' y6.
Popocatepetl, p6-p6' k4t-4-p4-tl.
Port au Prince, p6rt-6-prins'.
Port Said, -s4' 6d'.
Portsmouth, p6rts' m6th.
Portugal, p6r' t6-gal.
Portuguese, p6r' t6-g6z.
Potomac, p6-t6' mak.
Potosi, p6-t6' si.
Poughkeepsie, p6-k4p' si.
Prague, pr4g.
Pretoria, pr6-t6r' 6-a.
Pribilof, pr6-b6-l6f'.
Providence, pr6v' i-d6ns.
Prussia, pr6sh' y4.
Puebla, pw6b' l4.
Pueblo, pw6b' l6.
Puerto Rico, pw6r' t6 r6' k6.

Puget, p6' j6t.
Puno, p66' n6.
Pyrenees, pir' 6-n6z.

Quebec, kw6'b6k'.
Quincy, kw4n' z4.
Quito, k6' t6.

Racine, r4-s6n'.
Rainier, r4' n6r.
Raleigh, r4' l4.
Rangoon, r4n-g66n'.
Rappahannock, r4p-q-h4n' 6k.
Ravenna, r4-v6n' 4.
Reading, r6d' 4ng.
Rhine, rin.
Rhone, r6n.
Riga, r4' g4 (U. S.); r6' g4 (Rus.).
Rio Grande, r6' 6 gr4n' d4.
Rio Janeiro, -zh4-n4' 6-r6.
Rio Negro, -n4' gr6.
Roanoke, r6-q-n6k'.
Rochester, r6ch' 6s-t6r.
Rotterdam, r6t' 6r-d4m.
Rouen, r66' 6n'.
Roumelia, r66-m6' l6-q.
Roumania, r66-m4' n4-q.
Russia, r6sh' 4.

Saco, s4' k6.
Sacramento, s4k-r4-m6n' t6.
Saginaw, s4g' i-n4.
Sahara, s4-h4' r4.
Saigon, s4' 6-g6n.
Saint Albans, s4nt' 4l' b4nz.
Saint Augustine, -4' g6s-t6n.
Saint Croix, -kroi'.
Saint Gotthard, -g6-t4rd'.
Saint Helena, s4nt' h6-l6' n4.
Saint Lawrence, s4nt' l4' r6ns.
Saint Louis, -l66' is or -l66' i.
Saint Petersburg, -p6' t6rz-b6rg.
Saint Roque, -r6k.
Sakhalin, s4-k4-l6n'.
Salisbury, s4lz' b6r-i.
Saloniki, s4-l6-n6' k6.
Salvador, s4l-v4-d6r'.
Salzburg, s4lts' b66rg.
Samarkand, s4m-q-r-k4nd'.
Samoa, s4-m6' 4.
San Antonio, s4n 4n-t6' n4-6.
San Bernardino, -b6r-n4r-d6' n6.
San Cristobal, -k-r6s-t6' b4l.
Sandhurst, s4nd' h6rst.
San Diego, s4n d6-4' g6.
Sandusky, s4n-d6s' k4.
San Francisco, -fr4n-s4s' k6.
San Joaquin, s4n h6-4' k6n'.
San Jos6, -h6-s4'.
San Juan, -h66' 4n'.
San Lucas, -l66' k4s.
San Luis, -l66' 6s'.
San Marino, -m4-r6' n6.
Santa Barbara, s4n-t4-b4r' b4-r4.
Santa F6, -f4.
Santee, s4n' t6'.
Santiago, s4n-t6-4' g6.
Santo Domingo, s4n t6 d6-m6n' g6.
S466ne, s6n.
Saratoga, s4r-q-t6' g4.
Sardinia, s4r-d4n' i-a.
Saskatchewan, s4s-k4ch' 6-w4n.
Sault Sainte Marie, s66s6nt' m4' r4.
Savannah, s4-v4n' 4.
Scandinavia, sk4n-d4-n4' v4-a.
Schenectady, sk6-n6k' t4-d6.
Scilly, sil' i.
Scotland, sk6t' land.
Scranton, skr4n' t6n.
Seattle, s6-4t' l.
Sedalia, s6-d4' li-a.
Seine, s4n.
Seneca, s6n' 6-q4.
Senegal, s6n-6' gal'.
Senegambia, s6n-6-g4m' b4-q.
Seoul, s4-66l'.

Servia, s6r' v4-a.
Severn, s6v' 6rn.
Shanghai, sh4ng-h4' i.
Shannon, sh4n' 6n.
Shasta, sh4s' t4.
Sheffield, sh6f' f6ld.
Shenandoah, sh6n-4n-d6' 4.
Shetland, sh6t' land.
Shoshone, sh6-sh6' n6.
Shreveport, shr6v' p6rt.
Siam, s4-4m'.
Siberia, s4-b6' r4-a.
Sicily, s4s' i-l4.
Sierra Madre, s6-6r' 4-m4'dr4.
Singapore, s4n-g4-p6r'.
Sioux, s66.
Sitka, s4t' k4.
Smyrna, sm6r' n4.
Snowdon, sn6' d6n.
Sofia, s6-f6' 4.
Sokoto, s6-k6-t6'.
Solway, s6l' w4.
Somali, s6-m4' l6.
Somerville, s6m' 6r-v4l.
Spokane, sp6-k4n'.
Staffa, st4f' 4.
Stanovoi, st4-n6-voi'.
Steubenville, st6' b6n-v4l.
Stirling, st6r' 4ng.
Stockholm, st6k' h6lm.
Strassburg, str4z' b6rg.
Stuttgart, st66t' g4rt.
Suakin, sw4' k4n.
Sucre, s66' kr6.
Sudan, s66-d4n'.
Suez, s66-6z'.
Suisun, s66-6-s66n'.
Sulaiman, s66-l6-m4n'.
Sumatra, s66-m4' tr4.
Sunda, s6n' d4.
Sunderland, s6n' d6r-land.
Susquehanna, s6s-kw6-h4n' 4.
Suwannee, s6-w4' n6.
Swansea, sw6n' s6.
Sweden, sw6' d6n.
Switzerland, sw4t' z6r-land.
Sydney, s4d' n4.
Syracuse, s4r' 4-k6s.
Syria, s4r' i-a.

Tabriz, t4-br6z'.
Tacoma, t4-k6' m4.
Tagus, t4' g6s.
Tahoe, t4-h6'.
Tahlequah, t4'l6-kw4.
Tallahassee, t4l-q-h4s' 6.
Tampa, t4m' p4.
Tampico, t4m-p6' k6.
Tananarivo, t4-n4' n4-r6-v6.
Tanganyika, t4n-g4n-y6' k4.
Tarim, t4-r6m'.
Tashkend, t4sh-k6nd'.
Tasmania, t4z-m4' n4-a.
Taunton, t4n' t6n.
Taurus, t4' r6s.
Tehad, ch4d.
Teher4n, t6-h6r4n'.
Tehuantepec, t4-w4n-t4-p6k'.
Tennessee, t6n-n6s-s6'.
Terre Haute, t6r-6-h6t'.
Thames, t6mz.
Thianshan, t6-4n-sh4n.
Tiber, t4' b6r.
Tibet, t4-b6t' or t4b' 6t.
Tientsin, t6-6n' ts6n.
Tierra del Fuego, t6-6r' r4-d6l'-fw4' g6.
Tiflis, t4f-l6s'.
Tigris, t4' gr4s.
Timbuktu, t4m-b66k' t66.
Triticaca, t4t-6-k4' k4.
Tocantins, t6-k4n-t6ns'.
Tokyo, t6-k6-6.
Toledo, t6-l6' d6.
Tombigbee, t6m-b4g' b6.
Tonga, t6n' g4.

Topeka, t6-p6' k4.
Toronto, t6-r6n' t6.
Torrens, t6r' r6nz.
Toulon, t66'l6n.
Toulouse, t66'l66z'.
Transvaal, tr4ns-v4l'.
Traverse, tr4v' 6rs.
Trieste, tr6-6st'.
Trinidad, tr4n' i-d4d'.
Tripoli, tr4p' 6-l4.
Tucson, t6-s6n'.
Tulare, t66-l4' r6.
Tunis, t6n' 4s.
Turin, t6r' 4n.
Turkestan, t66r-k4s-t4n'.

Ucayale, 66-k4-4' l4.
Uinta, 6-n' t4.
Ujiji, 66-j6' j6.
Ural, 6' r4l.
Uruguay, 66-r66-gw4'.
Utah, 6' t4 or 6' t4.
Utica, 6' t4-k4.

Valdai, v4l' d4.
Valencia, v4-l6n' sh4-a.
Valparaiso, v4l-p4-r4' s6.
Vancouver, v4n-k66' v6r.
Vega, v6' g4.
Venezuela, v6n-6-zw6' l4.
Venice, v6n' 4s.
Veracruz, v4' r4 kr66s'.
Verde, v6rd'.
Vermont, v6r-m6nt'.
Vesuvius, v6-s6' v4-6s.
Vienna, v6-6n' 4.
Vincennes, v4n-s6nz'.
Virginia, v6r-j4n' i-a.
Vistula, v4s' t4-l4.
Viti Levu, v6' t6 l4' v66.
Vladivostok, vl4-d6-v6s-t6k'.
Volga, v6l' g4.
Vosges, v6zh.

Wabash, w4' b4sh.
Wachusett, w4-ch6' s6t.
Waco, w4' k6.
Warsaw, w4r' s4.
Wasatch, w4' s4ch.
Waterloo, w4-t6r-l66'.
Welland, w6l' 4nd.
Wellington, w6l' 4ng-t6n.
Wenner, w4' n6r.
Wetter, w6t' t6r.
Wichita, w4ch' i-t4.
Wilkesbarre, w4lks' b4r-i.
Willamette, w4-l4' m6t.
Wilmington, w4' m4ng-t6n.
Winnebepaukee, w4n-6-p6-s4' k6.
Winnepeg, w4n' i-p6g.
Winona, w4-n6' n4.
Winooski, w4-n66s' k4.
Wisconsin, w4s-k6n' s4n.
Woonsocket, w66n-s6k' 6t.
Worcester, w66s' t6r.
Wyoming, w4-6' m4ng.

Yablonoi, y4-bl6-noi'.
Yakima, y4k' i-m4.
Yakuts, y4-k66tsk'.
Yangtze, y4ng' tze.
Yarkhand, y4r-k4nd'.
Yazoo, y4-z66'.
Yenisei, y6n-6-s4' 6.
Yesso, y6s' s6.
Yokohama, y6-k6-h4' m4.
Yonkers, y6nk' 6rs.
Yosemite, y6-s6m' i-t6.
Yucatan, y66-k4-t4n'.
Yukon, y66' k6n.

Zambezi, z4m-b4' z6.
Zanzibar, z4n' z4-b4r.
Zululand, z66'l66-land.
Zurich, ts6r' 4k.
Zuider Zee, z6i' d6r z4'.

CENTRAL STATES.

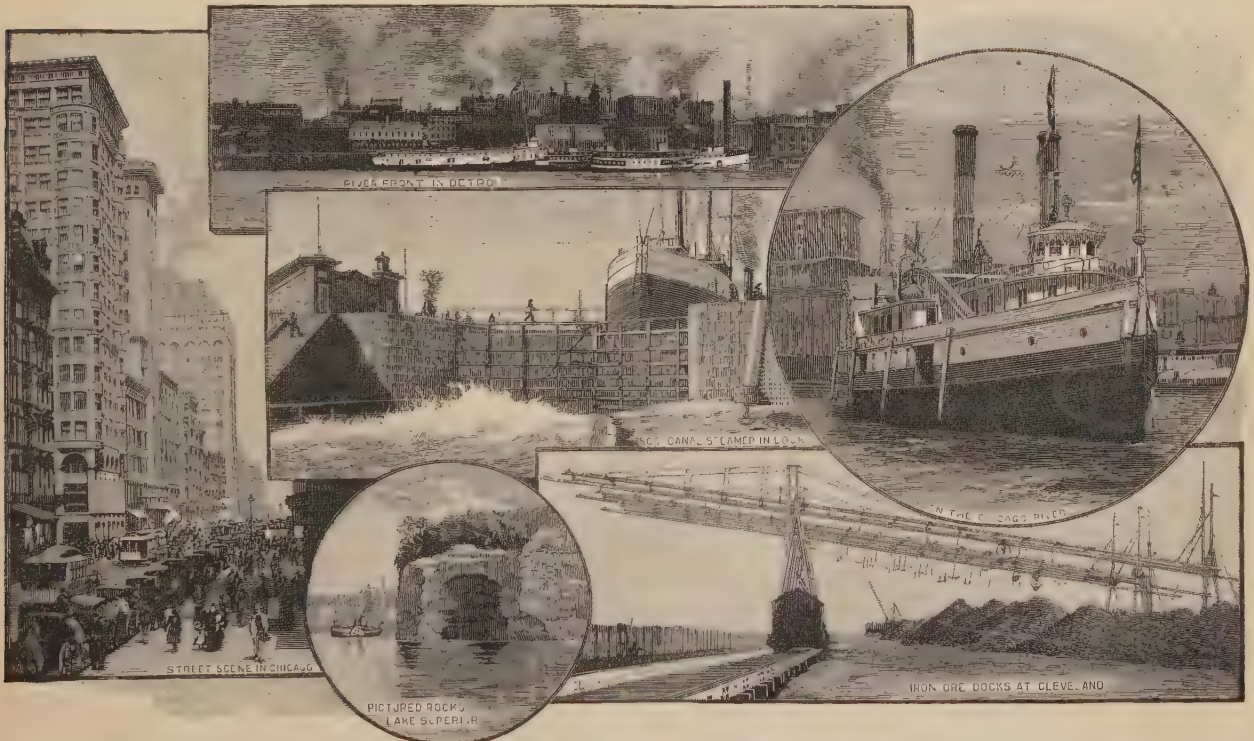
(EASTERN SECTION.)

Surface.—The greater part of this section is in the Mississippi basin. Most of the surface is level or rolling prairie. The extreme northwest is hilly, and the southeast part is crossed by ridges of the Appalachian highland.

Rivers.—No other portion of the Union has so many fine rivers. The larger streams belong to the Mississippi system. The rivers

Climate.—In the north of this section the winters are cold, and snowstorms are common. Yet the climate is healthful and the air is bracing. The southern half has milder winter seasons. In all these states the summers are hot.

The rainfall is heaviest in the southwest, but in no part do the crops often suffer from drought.



that flow into the Great Lakes belong to the St. Lawrence system.

Lakes.—The Great Lakes form the largest body of fresh water on the globe. Lake Superior is twenty-five times the size of Rhode Island.

These lakes are really fresh-water seas. In crossing any one of them you would lose sight of land. Storms sweep over them, and vessels are often dashed to pieces on their shores.

Timber.—A vast plain, with but few trees, extends northwest from the Wabash river to the Mississippi. Many parts of this group of states, however, are well-wooded. Forests of pine abound in the north. Oak, maple and walnut are found in all the states.

The lumber industry is very important.

Agriculture.—The soil is rich and easily plowed. Farming is the chief industry. No other section grows so much grain, hemp and tobacco.



MAP STUDIES.

Central States.

(EASTERN SECTION.)

Location.—Name the states in this group. Which state is made up of two peninsulas? What great river bounds most of this section on the west? What bodies of water form the northern boundary? Which of these states has no lake coast?

Rivers and Lakes.—Which of the Great Lakes touch these states? Which one of these lakes lies wholly within the United States? What strait or river flows from lake Superior into lake Huron? What strait connects lake Michigan with lake Huron? By what bodies of water is lake Huron joined with lake Erie?

What river is the outlet of lake Ontario? Into what body of water does it flow? Between what states does the Ohio river flow?

Water Routes.—On what waters would a steamer go in making a trip from Cleveland to Milwaukee? From Quincy to Cincinnati? From Toledo to Superior? From Chicago to Detroit?

Ohio.

Bound Ohio. Describe the two water ways which this state has to the Atlantic ocean?

Name the capital. Where is Cincinnati? Cleveland? Toledo? Dayton?

In what direction from Cincinnati is Chicago? St. Louis? Detroit? Milwaukee? New York? New Orleans? San Francisco?

Kentucky.

Bound Kentucky. Which part contains mountains? What two large rivers cross the southwestern part?

Where is the capital? Where is Louisville? Newport? Covington? Lexington?

Indiana.

Name a river that crosses this state. What states border on Indiana?

In what part of the state is the capital? Where is Evansville? Fort Wayne? Terre Haute? South Bend? New Albany?

Which is the farther north, Indianapolis or New York? In what direction from Indianapolis is Chicago? Detroit? St. Louis?

Michigan.

Where is Saginaw bay? Name a large island in lake Superior belonging to Michigan. Where is the Mineral range?

What lakes touch the upper peninsula? The lower? To what river system do the streams of Michigan belong?

Where is the capital? Where is Detroit? Grand Rapids? Saginaw? Bay City?

Which is the farther from Detroit, Chicago or Cincinnati?

Wisconsin.

Bound Wisconsin. Which part is hilly? Where does the Wisconsin river rise? Into what river does it flow? Where is Green bay?

Name the capital. Where is Milwaukee? Racine? Lacrosse? Eau Claire?

In what direction from Milwaukee is Chicago? St. Louis? New Orleans? New York?

Illinois.

Bound Illinois. In what direction does the greater part of the surface slope? What lake is on the northeast?

Where is the capital? What great city on lake Michigan? Where is Quincy? Peoria? Joliet?

In what direction from Chicago is New York? New Orleans? Philadelphia? San Francisco? Boston? St. Louis?

Which city is the farther north, Chicago or New York? Chicago or London?

Nearest which ocean is Chicago? How many water routes lead from this city to the Atlantic ocean?

Where is the Illinois and Michigan canal?

The raising of live stock is a source of great wealth. Butter and cheese are produced in very large amounts.

Meat packing employs thousands of hands.

Mining. — This section has great mineral wealth. The most noted copper mines in the world are on the south shore of lake Superior. East of them are the richest iron mines in the United States. (*See map, page 98.*)

In what parts of this section is coal found? (*See map, page 97.*) The coal fields cover many thousand square miles.

Lead and zinc are mined in the western part. Building stone abounds, and salt is yielded in vast quantities.

Manufacturing. — In all the Central States manufactures are fast growing in number and value. Some of the leading articles made here are cars, farm tools and machines, steel rails, wagons, furniture, clothing, flour, tobacco goods and iron wares.

Commerce. — The states of this group have more than two thousand miles of lake coast. The traffic on the Great Lakes exceeds in value the foreign commerce of the whole country.

Railroads form a network over this section, and run to all parts of the Union.

A number of large rivers also greatly favor trade. Steamboats ply on the Mississippi, Ohio, Illinois, Tennessee, Cumberland and Wabash rivers. Canals join the Ohio and Illinois rivers with the Great Lakes.

Freight can be moved on water from Chicago to New York, New Orleans or Quebec, and from these ports to foreign countries.

OHIO.

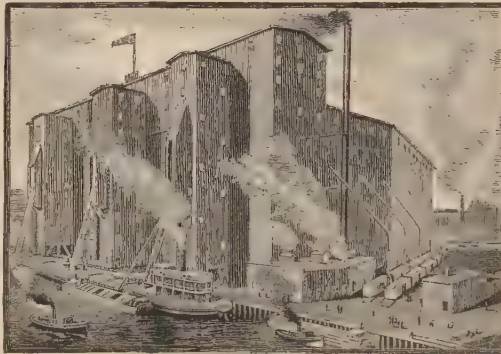
The greater part of the surface of Ohio is rolling prairie. It is grooved by many river valleys. There are no mountains in this state.

Most of the land is fertile. Ohio has long held high rank in almost every branch of farming and in fruit growing.

The wool clip is very large.

This state is rich in coal, timber and iron ore.

In the making of wagons and farm tools Ohio holds the first rank. More oil is refined here than in any other state. In some parts of Ohio natural gas is obtained by drilling deep wells in the ground. The gas rushes up with force enough to send it for miles through iron pipes. It is much cheaper than



Grain Elevator and Whaleback Steamer.

coal and has great heating power. It is therefore of great value in manufacturing.

Columbus, the capital, has many fine public buildings. It is an important railroad center and contains iron mills and large carriage factories.

Cincinnati is a manufacturing city. Clothing, furniture, machinery, boots and shoes are the leading products.

Meat packing and the shipping of grain are important industries.

Cincinnati carries on a great trade by both rail and water.

Cleveland is a center of lake traffic and a noted market for kerosene, iron ore, lumber and coal.

Many steel steamers are built here.

The clothing trade amounts to millions of dollars yearly.

Toledo is a well-known lake port. It has an active commerce in grain, flour and lumber.

Natural gas is brought into the city from gas wells over thirty miles away.

Toledo has the largest wagon works in the United States. Here, also, are iron mills and furniture factories.

Dayton is a thriving city. Its chief manufactures are paper, iron goods, cars and farm machines.

Springfield is in the midst of a rich farming district. The city has machine shops, flour mills and great factories for making mowers and reapers.

KENTUCKY.

There is more woodland in Kentucky than in any other state in this group.

Kentucky ranks first in the production of tobacco and hemp.

The central part of the state is very fertile. Here is the Blue Grass district—a famous pasture ground. It is noted for fine horses.

Kentucky has vast beds of coal and of iron ore. They are not yet, however, worked to their full extent, but the export of coal and iron is growing fast.

Frankfort is the capital.

Louisville is the largest tobacco market in the world.

This city contains many iron works and tanneries and carries on an active trade with

the South. The chief exports are tobacco, grain and flour.

Lexington has manufactures of rope, tobacco and bagging. This city is the market for a fine farming region.

INDIANA.

A large part of Indiana is hilly. About one eighth, chiefly the northwest part, is prairie.

Hard wood forests grow in some parts.

Much of the land is very fertile. Indiana takes a leading place in the raising of grain and live stock.

The state is rich in coal, iron and natural gas. Since this gas has been brought into use, manufacturing has grown very fast.

Indianapolis, the capital, is a great railroad center. Meat packing is the chief industry. There are important manufactures of carriages, flour, tiles, furniture and machinery.

This city is the business center of a fertile district and has a large trade in grain and live stock.

Evansville is the chief shipping point of southwest Indiana. The commerce in grain, pork and tobacco is very active.

Evansville is near great coal mines, and contains foundries, machine works and flour mills.

Fort Wayne is the trade center of the northeast part of the state. The leading products of this city are cars, flour, lumber and iron goods.

Terre Haute manufactures iron in great quantity. Grain, flour and pork are shipped from this place.

South Bend is noted for its furniture and wagon factories.

New Albany is an important port on the Ohio river.

MICHIGAN.

The upper peninsula is hilly and wooded. It is very rich in iron and copper.

Most of the lower peninsula is nearly level. The northern part has great forests of white pine and is famed as a timber region. In the southern portion the soil is fertile.

Farming is the chief industry. Much care is given to fruit growing.

In the production of lumber, salt and iron ore no other state equals Michigan. Its copper mines are among the richest in the world.

Michigan has over sixteen hundred miles of lake coast, and the commerce is very large.

There is a ship canal around the rapids in the St. Marys strait.

The famous *pictured rocks* are cliffs on the shore of lake Superior. They have been worn by water and frost into odd shapes, like towers and archways.

Lansing is the capital. Falls in the Grand river here afford fine water power. This is used in the manufacture of furniture, flour and farming machines.

Detroit has the best harbor on the great lakes and is a noted center of commerce.

This city is largely engaged in manufacturing. Here are iron mills, copper works, car and machine shops and tobacco factories.

Grand Rapids has vast water power in rapids in the Grand river. Lumber and furniture form the chief manufactures.

Near the city are large quarries of gypsum.

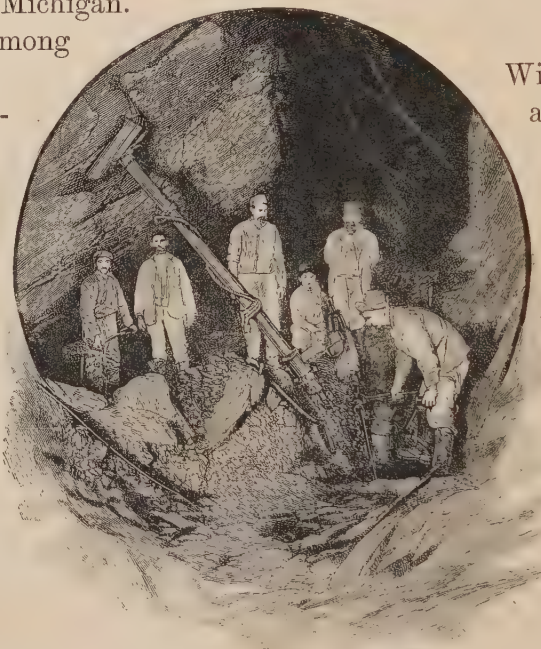
Saginaw and Bay City are widely known for their great export trade in salt. Much lumber, also, is shipped from these places.

Jackson has foundries, furniture factories and wagon works.

This place is the market of a thriving farm district.

Muskegon has a good harbor and is a leading port for lumber.

Boilers and steam engines are the chief articles of manufacture.



Copper Mine, — 2000 feet deep.

WISCONSIN.

Wisconsin is mainly a high and rolling plain. Near lake Superior it is broken by hills.

In beauty of scenery few parts of the Union surpass the northern portion of this state. Hundreds of beautiful lakes gem the surface. The streams are clear and swift, and abound in rapids and falls.

The famous *dalles* of the St. Croix and Wisconsin rivers draw tourists from all parts of the Union.

This state has much forest land, and the lumber trade is very active.

Iron ore of fine grade is mined in the north. In the southwest zinc and lead are found.

Madison, the capital, is in the beautiful "Four Lake" region. This city is the seat of the University of Wisconsin.

Milwaukee is a noted center of commerce and manufactures. Its exports of grain and flour are very large. The city contains foundries, machine shops and meat-packing works.

In flour milling Milwaukee takes very high rank.

Eau Claire is the chief business point of northern Wisconsin. This place has a very large trade in lumber.

Lacrosse produces boilers, iron castings and farming machines. Grain and lumber are shipped from this city.

Oshkosh is noted for its great shipments of lumber.

Racine has a fine harbor and exports grain, lumber and manufactured articles.

This city contains tanneries, woolen mills, wagon factories and farm-machine works.

ILLINOIS.

Illinois is mostly a vast prairie, but the north-west portion is hilly. The southern part is well wooded.

The soil is very fertile. For many miles a plow can be run through it without touching a stone. No other state has so much farmed land.

Illinois contains vast beds of coal. Lead is mined in the northwest.

In manufactures Illinois ranks high. In value of farm products it leads all the other states.

Springfield is the capital. It has manufactures of wolens and iron goods.

Near by are great coal mines.

Chicago is famous for its very rapid growth. In 1831 there were here only twelve houses. This city now ranks second in America and about fifth in the world.

As a market for lumber, grain, live stock and meat no other city equals Chicago. It is

the largest center of inland trade in the United States.

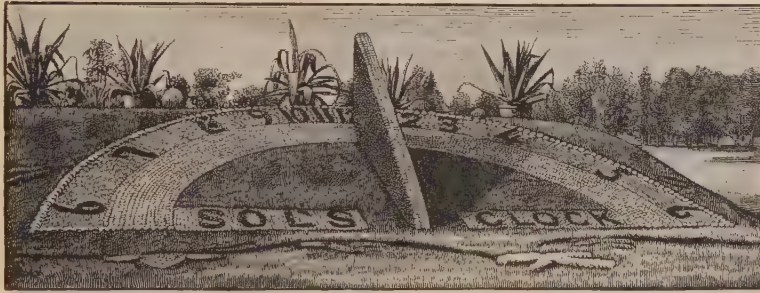
Nearly five hundred trains enter and leave this city daily.

The shipping trade on the lakes is very large.

Chicago is also a great manufacturing city. The value of its products reaches hundreds of millions of dollars every year.

Peoria is near large coal mines. Alcohol and wines form the chief manufacture. Meat packing is an important industry.

Peoria is a river port and railroad center. It has a brisk commerce in grain and live stock.



Park Scene in Chicago.

Quincy manufactures flour, lumber, iron wares and tobacco goods. The river traffic is large and growing.

Joliet is famed for iron and steel manufactures. The Des Plaines river supplies fine water power.

There are large quarries of limestone in this place.

Rockford has cotton and woolen factories, paper mills and iron works.

Bloomington is an important railroad center. Its manufactures include machines, cars, tiles, flour and iron castings.

Coal is mined near by.

Elgin has a great trade in dairy products and condensed milk.

The largest watch factory in the world is here.

* * *

In all these states there are very old earth mounds and walls. These were made by

people that we call the *Mound Builders*. It is thought that they lived here before the Indians.

trinkets of copper and of silver. painted crockery and carved stone figures.

What became of these strange people, no


In some of the mounds men have found one knows.

CENTRAL STATES WORD LIST.

(EASTERN SECTION.)

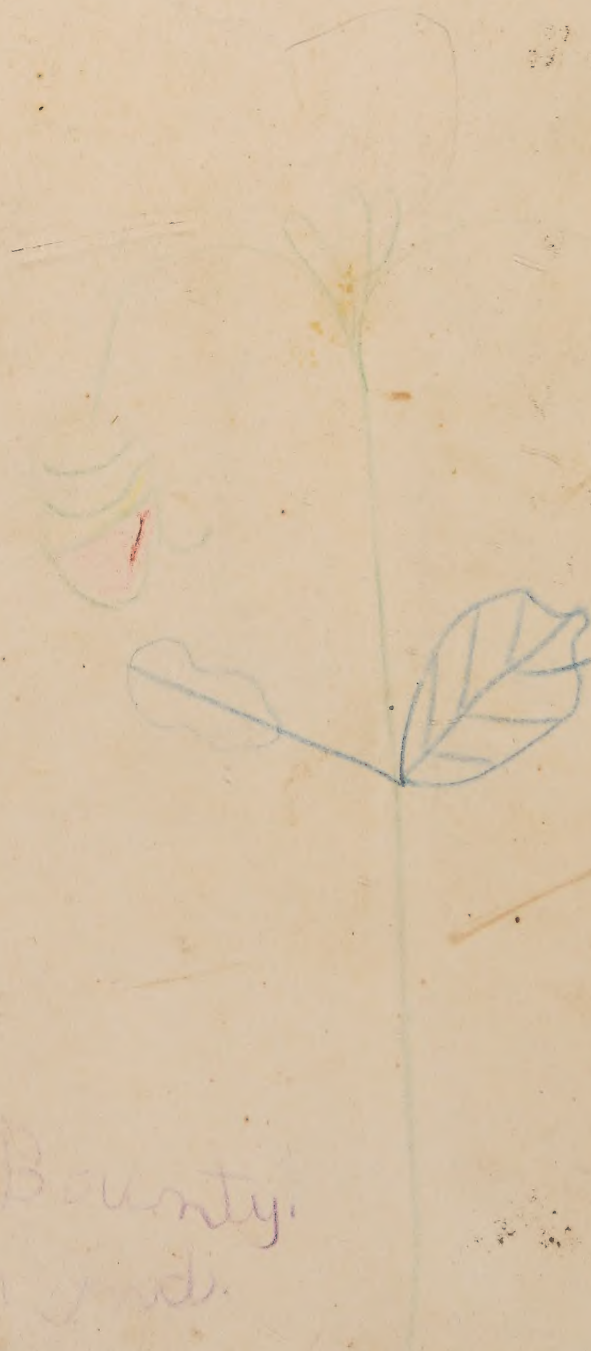
AU SABLE	a sä/bl	HURON	hū'ron	NEW ALBANY	al'ta-nī
BLOOMINGTON	blōom'/ing-ton	INDIANAPOLIS	in-dī-än-äp'o-līs	OSHKOSH	ōsh'kōsh
CHIPPEWA	chīp'/pe-wä	JACKSON	jäk'son	PEORIA	pē-ō'rī-a
CINCINNATI	sīn-sīn-nä'tī	JOLIET	jō'le-ēt	QUINCY	kwīn'zī
CLEVELAND	klēv'land	KASKASKIA	käs-käs'kī-a	RACINE	ra-sēn'
COLUMBUS	kō-lūm'būs	LACROSSE	la-krōs'	ROCKFORD	rōk'fōrd
COVINGTON	kūv'ing-ton	LANSING	län'sing	SAGINAW	säg'i-nä
CUMBERLAND	kūm'ber-land	LEXINGTON	lēk'sing-ton	ST. CLAIR	sānt klār'
DALLES	dälz	LOUISVILLE	lōō'is-vīl	ST. CROIX	sānt kroī'
DAYTON	dā'ton	MACKINAC	māk'i-nä	SAULT STE. MARIE	sōō-sēnt-mā'rī
DES PLAINES	dā-plān'	MAMMOTH	mām'mōth	SCIOTO	sī-ō'tō
DETROIT	de-troit'	MANITOU	mān'e-tōō	SPRINGFIELD	sprīng'fēld
EAUCLAIRE	ō-klār'	MARQUETTE	mār-kēt'	TERRE HAUTE	tēr'e-hōt
ELGIN	ēl'jīn	MILWAUKEE	mīl-wä'kē	TOLEDO	tō-lē'dō
EVANSVILLE	ēv'anz-vīl	MUSKEGON	mūs-kē'gon	WABASH	wä'bash
FORT WAYNE	wān	MUSKINGUM	mūs-kīn'gūm	WINNEBAGO	wīn-ē-bā'gō
FRANKFORT	fränk'fort				

KEY: āle, ām, ārm, final, all; ēve, ēvent, ēnd, hēr, recent; īce, īll; ōld, ōbey, ōrb, ōn; ūse, ūp, fūr; fōd, ch as in chair; g as in go; ŋ as in ink; th as in thin.



Clara in the
buggy Clyde by
her side. Clyde
says to Clara now
you you take a ride
Clara in the P
Clyde by her side
Clyde says
Clara want
be my
Daisy

you are a bad girl



Dear

a Bounty

for you

C. LA BOUNTY



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